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ABSTRACT

This guide, written for health managers and clinicians, provides information to meet the family planning needs of migrant farmworkers of Mexican culture. The promotion of maternal and child health for migrant farmworker families has brought attention to the incidence of high risk pregnancies among this population. Research indicates that a need exists to increase accessibility and acceptability of family planning services for Mexican American migrant farmworkers. Because of the cultural similarities between Mexicans and Mexican Americans, successful family planning programs in rural areas of Mexico are relevant to service providers in the United States. The first chapter of the guide focuses on women and discusses maternal and infant health risks, social influences and attitudes toward family planning, contraceptive methods for women, and effective means for delivering services. Chapter 2 discusses adolescents and describes influences on adolescent sexuality, risks for sexually active adolescents, contraceptives for adolescents, program implications, and effective means for delivering services. The last chapter centers on the role of males in family planning. Involving males in family planning and providing accurate information about contraceptives would promote positive outcomes. Male methods of contraception are also discussed. Each chapter contains a list of references. Appendices include six family planning case histories, a model family planning project for women at risk, a detailed description of contraceptive methods, and a listing of additional resources for family planning assistance. (LP)

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FAMILY PLANNING FOR MIGRANT FARMWORKERS OF MEXICAN CULTURE:

A FRAMEWORK FOR ACTION

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PREFACE

The purpose of this publication is to provide health managers and clinicians with sufficient background information to plan for the family planning needs of migrant farmworkers of Mexican culture. While not intended as a medical text, physicians, nurses and other health professionals may benefit from the discussions of issues related to different family planning methods and implications for service delivery. It is hoped that this information may serve as a catalyst to prompt a more targeted approach to migrant individuals and families, particularly to those in jeopardy of high-risk pregnancies.

Although much of what needs to be done to increase the effectiveness of family planning services for this special population may be accomplished by utilizing existing staff and resources, several of the strategies recommended may call for a modest infusion of new resources. As additional financial support becomes necessary, it is hoped that the information and citations in the report will be of assistance in the preparation of cogent project proposals and grant requests.

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INTRODUCTION

Migrant farmworkers of Mexican culture in the United States share many characteristics of deprived populations in developing countries worldwide: underemployment, substandard housing, lack of sanitation, low education, inadequate nutrition, isolation and discrimination. Many migrant farmworker families originate from rural communities in southern United States where, because of lack of education and English language skills, they are relegated to the lowest socioeconomic strata. In their annual trek upstream these families seek employment but continue to face the same social and economic disadvantages.

The quality of health care for migrant farmworkers has improved considerably over the past two decades. Most major migrant impact areas now have comprehensive health care available which includes medical, dental and nutrition services. There is some evidence that children have benefited from health, education and nutrition programs, especially in terms of improved immunization levels and hematocrits (Littlefield, 1981). However, the long-range health effect of improved services for the migrant population is not known. This is partially due to the constant influx of newcomers in the migrant stream, a phenomenon related to both push and pull factors in the economies of the sending and receiving communities. Migrants of Mexican culture leave the border states in the spring because of high unemployment, inflation and rural poverty. Upstream, they hope to secure access to better jobs, higher incomes, and, ultimately, an improved standard of living for themselves and their families.

The promotion of maternal and child health for migrant farmworker families has prompted attention on the incidence of high risk pregnancies among this population. The universally recognized risk factors which increase the chances of a poor pregnancy outcome and related poor maternal, infant and child health are:

1. Childbearing over 35 years.
2. Childbearing under 18 years.
3. Multiparity (over 4 births).
4. Births spaced less than 2 years apart.
5. Pre-existing disease conditions.

Little is known about the incidence of these factors among the migrant population and which strategies would be most effective in their reduction. The Colorado Migrant Health Program initiated a pilot study in 1983 to document the risk factors reported by pregnant migrant women in Colorado. The analysis of 243 interviews revealed a significant incidence of reproduction wastage, morbidity, and infant mortality. Twenty-five percent of the women had one or more fetal deaths; seven percent of the women had one or more infants die during the first year of life. Twenty-five percent had one or more closely spaced pregnancies; nine percent of the total were over age 35 years; nine percent were under age 18 years. Over one-third had neither planned the present pregnancy nor used any contraception. By any measure of risk, many of the women were in need of immediate intervention. The investigators concluded that even though family planning services had been available to migrants for the past two decades, an extra effort was now necessary to increase their accessibility and acceptability.

Access to family planning services is now recognized internationally as a universal human right. This declaration was incorporated into the World Plan of Action on Population approved at the United Nations' World Conference on Population held in Bucharest in 1974. The tenet recognized "the basic right of couples and individuals to decide freely and responsibly the number and spacing of their children and to have the information, education and means to do so; the responsibility...takes into account the needs of their living and future children and their responsibilities toward the community." (United Nations, 1974, 1984).

The last International Conference on Population was held in Mexico City in August, 1984 and concern continued to be voiced for the high levels of infant and maternal mortality in developing countries worldwide, and the differential mortality rates between regions and social groups in developed countries. Among over 75 recommendations for the "Further Implementation of the World Population Plan of Action" (United Nations, June 6, 1984) were seven which were most relevant for providers of health services to the migrant farmworker population in the United States, specifically:

1. Special efforts must be made to reach underserved and deprived populations in rural areas.
2. Family planning must be supported as an effective measure for improving maternal and child health by reducing births too early or too late in a woman's life, by increasing intervals between births, and by reducing higher birth orders.
3. For the right to family planning to be realized, couples and individuals must have access to the necessary education, information and means to control their fertility.
4. Effective family planning programs must include all medically approved and appropriate methods of family planning, including natural family planning, to ensure a voluntary and free choice in accordance with cultural values.
5. Suitable family planning information and services should be made available to adolescents within their sociocultural framework.
6. The active involvement of men must be promoted and encouraged in all areas of family responsibility, including family planning.
7. The basic human rights and fundamental freedoms of migrants must be effectively safeguarded.

In his opening address delivered to the delegates of the 1984 International Conference, Miguel de la Madrid Hurtado, President of the United Mexican States, reported on the success of the population policy established by the Mexican government in 1974 following a social demand for public services that would provide support for individual and family planning decisions. National goals were set in 1978 to lower the population growth rate from 2.5 percent to 1.9 percent by 1988. By 1983 the growth rate had already fallen to 2.3 percent; a national awareness had emerged on the need to improve quality of life and enable each individual and each couple to exercise control over their productive decisions on the basis of having the necessary information available (Miguel de la Madrid Hurtado, 1984) .

The success of family planning programs instituted in the rural areas of Mexico is relevant for providers of health care to the migrant farmworker population in the United States. In Mexico's national program, health providers at all levels, from community volunteers and lay midwives to physicians, were enlisted in the national effort. Both providers and users were educated formally and informally in principles basic to family planning. Teachers introduced the topic in the schools; mass media brought the program before the public. Pregnant women were targeted for family planning information from both modern health providers as well as lay midwives resulting in thousands of new acceptors of IUDs and voluntary sterilizations. Dr. Manuel Urbina Fuentes, Director of Family Planning for the Mexican Ministry of Health, reported that the health, education and publicity campaigns have been successful in changing both attitudes and behaviors. Maternal, neonatal and infant mortality rates have been reduced; morbidity and mortality related to abortions have decreased. Communication about family planning has increased between friends and between parents and children. Unfortunately, measurable changes have not occurred between husbands and wives. Males continue to have the largest deficits in knowledge related to the "sexual aspects of life" and special efforts are underway to deal with this obstacle, e.g. educational meetings for males led by health care providers and promoters in workplaces (Rowley, 1984).

Although family planning services for migrant farmworkers of Mexican culture have been available for the past two decades in the United States, a renewal of energy and commitment is clearly necessary. Many migrants remain unaware of the availability of family planning services or how to access the services once they are aware of them. Efforts to reach this population are not as effective as they could be as evidenced by the numbers of migrant women who report unplanned or unwanted pregnancies but use no contraceptives. Additional indices are the numbers of migrant women who fall into one or more high risk pregnancy categories but who have never been approached by health care providers with family planning information.

An underlying assumption of this manual is that migrant farmworkers of Mexican culture share more characteristics with rural Mexicans than they do with the majority population in the United States. For this reason, principles derived from research conducted in Mexico and along the U.S.-Mexico border are generously applied to the discussions related to methods and service delivery. Although there may well be significant differences between the knowledge, attitudes and practices of rural Mexican nationals and Mexican American migrant farmworkers, the authors contend that enough similarities exist to justify application of the Mexican experience. At minimum, the Mexican experience demonstrates that positive results can occur when family planning becomes a national priority. Now is the time to make family planning for migrant farmworkers a priority in the United States.

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CHAPTER I

WOMEN AND FAMILY PLANNING

The Health Risks

Family planning is now known to confer direct benefits on the health of both mothers and their infants through reduction of high risk pregnancies. In countries where no effort has concentrated on this concern, mortality rates for mothers and infants remain high. The risk factors which are most significantly associated with morbidity and mortality among mothers and infants are: 1) pregnancies before age 18 years, 2) pregnancies after age 35 years, 3) pregnancies after four births, and 4) pregnancies less than two years apart. In a recent monograph, Rinehart and Kols (1984) thoroughly reviewed high risk pregnancies and their impact on the health of mothers and children. Their contribution was a major resource for this section which summarizes the consequences of high risk pregnancies for maternal and infant morbidity and mortality.

1. Maternal Morbidity and Mortality

Recognition of the relationship between early, late, many, or close pregnancies and health hazards for mothers had its forerunners in medical observations in the nineteenth century which were confirmed by studies in the first six decades of the twentieth century (Omran, 1971). Physicians had formerly thought that pregnancy and delivery became progressively easier for mothers and newborns with each subsequent pregnancy. The facts finally dispelled this assumption, although intervening variables such as socioeconomic and environmental conditions complicate the association between high risk factors and maternal and infant mortality. Essentially, in developed countries, with optimal access to health care, mothers with high risk factors often survive, but the increased risks still exist for both mother and infant. Where more than one risk factor exists, the probability of distress for both mother and newborn also increases (Hobel et al, 1973).

Comparative statistics from the United States and Mexico give some indication of the magnitude of the problem. Maternal mortality in the United States in 1978 was only 10 per 100,000 live births. In that same year, the rate in Mexico was 103. Overall, in the United States, maternal deaths account for less than two percent of all deaths among women 15-44 years. In Mexico the percentage has been more than ten percent (Rinehart & Kols, 1984). A retrospective analysis of maternal mortality by ethnicity in California, New Mexico, Colorado, Arizona, and Texas revealed that 33 percent had Spanish surnames and of these 44 percent were born outside of the United States (Rochat & Smith, 1981). The Center for Disease Control concluded that, "it is clear that Hispanic women, particularly first generation immigrants from Mexico, contribute substantially to maternal mortality in the southwestern United States" (Rochat & Smith, 1981). Providers of health services for Mexican culture migrants must be made aware of the fact that this population is presently at high risk for mortality and morbidity associated with pregnancy.

The factors which are most commonly related to maternal mortality in both developed and developing countries are mother's age and parity. Women under age 18 and over age 35 in all countries have higher mortality rates as do women who are experiencing their first pregnancy or who have had more than four births. The optimal childbearing age is between 20 and 30 years, an age which, unfortunately, does not coincide with the average age for marriage in many developing countries. In Mexico, for example, the mean age at marriage for women in rural areas is 17.8 years (Arizpe, 1984), which implies a pregnancy by age 18 or 19 years. Moreover, by initiating childbearing at an early age, the young mother is likely to have more pregnancies than the woman who starts later (Trussell and Menken, 1978).

The obstetrical complications which account for most maternal deaths in developing countries are hemorrhage, pregnancy-induced hypertension, and sepsis. Hemorrhage occurs most often in older, multiparous women whose uteri have lost their muscle tone reducing the ability of the uterus to contract sufficiently and stop bleeding after separation of the placenta. Other causes of hemorrhage during late pregnancy or delivery are "abruptio placenta", a premature detachment of the placenta from the uterine wall, and "placenta previa", an abnormal implantation of the placenta in the lower uterus causing it to tear away when the cervix dilates during labor. Rupture of the uterus is a less common cause of hemorrhage but can occur if labor is obstructed and the facilities for a caesarean section are not available, or if the uterine wall has been weakened by previous difficult deliveries or by incisions of past caesarean sections. All of these conditions are increasingly more likely as a woman undergoes additional pregnancies and deliveries (Rinehart & Kols, 1984).

Other potentially fatal conditions associated with maternal morbidity and mortality are pregnancy-induced hypertension (toxemia, pre-eclampsia) and infection (sepsis). Pregnancy-induced hypertension may include protein in the urine and fluid retention which, if untreated, can lead to seizures, or eclampsia, a life-threatening situation for both mother and unborn baby. Older women who have had many births are at greatest risk for toxemia, as are young teenage mothers having their first baby. Because complicated deliveries are more likely to result in infection, both very young and older women are also more likely to experience this serious, and potentially fatal, consequence of pregnancy and delivery (Rinehart & Kols, 1984).

Other complications more likely to be experienced by women who have had many pregnancies are uterine prolapse, pregnancy-induced diabetes, malnutrition and anemia. While not necessarily life threatening, these medical problems are debilitating and, if untreated or followed up with additional, closely-spaced pregnancies, can readily result in further maternal depletion. These, as well as any chronic condition, added to an identifiable risk factor decrease the mother's capability to respond adequately to the biological and psychological stress of childbearing. As already indicated, the presence of critical risks is not confined to women in developing countries. Impoverished migrant women, over age 35 or with several closely spaced children or with chronic health conditions, need to know that family planning is available, accessible and affordable in the United States.

2. Infant Morbidity and Mortality

The same risk factors which jeopardize the health of the mother also affect the health of her infant, namely: mother's age under 18 years or over 35 years, more than four previous births, and less than two years between births. Furthermore, the negative effect of these factors on the health of the infant may be exascerbated by many other variables including poverty, lack of education, crowding, poor sanitation, substandard housing, discrimination, and reduced access to health services. Often ascribed to life in developing countries, these same socioeconomic and environmental conditions characterize the lives of many migrant farmworkers of Mexican culture in the United States.

Infant mortality rates for migrant farmworkers are not available, but differences between the United States and Mexico have some relevance. The rate per 1,000 live births in the United States in 1981 was 12; in Mexico, the rate was 54 (Rinehart & Kols, 1984). An estimate for rural peasants in Mexico has been placed as high as 100 (Arizpe, 1984). With the present national priority on family planning in Mexico, as well as their emphasis on improving rural health services, the infant death rate is expected to drop with a reduction in high risk pregnancies.

While pregnancy risks can be considered separately, three often occur together to the detriment of the developing fetus and infant, specifically, the mother is older, and has had many births and closely spaced pregnancies. This combination results in major deficits for the infant, both prenatally and postnatally. Prenatally, the older mother may be physically and nutritionally depleted from previous pregnancies and unable to provide the optimal biological environment for the developing fetus. Postnatally, the infant may be in competition with other young children for care and a proper diet, especially if the mother chooses not to breastfeed.

Even in developed countries, age and multiparity are both associated with fetal deaths (stillbirths) and infant deaths. For fetal and neonatal death, the first born is at high risk; the second born has a low risk and, with each birth thereafter, the risk continues to rise. For post-natal and early childhood death, the risk increases steadily with birth order, with no advantage for the second born (Omran, 1971).

In developing countries, short birth intervals are also related to high infant mortality rates. Indeed, some studies indicate that birth spacing has more impact on infant mortality rates than either birth order or mother's age. The principal factor in both neonatal and post-natal deaths is low birth weight (less than 2500 grams), either related to prematurity or to poor intrauterine growth. Birth spacing may be a more important contributor to low birth weight than either mother's age or parity, but the studies are not conclusive (Rinehart & Kols, 1984). For some underweight infants, the risks are increased if the previous spacing was too close and a subsequent pregnancy follows immediately. By adding one potential physical insult to another, the likelihood of morbidity and mortality increase commensurately.

The relationship between increasing maternal age and chromosomal abnormalities, especially Down's Syndrome (mongolism), is widely documented and accepted. Other handicapping conditions more likely to occur in children of older mothers are congenital malformations of the circulatory system, and cerebral palsy related to intracranial and spinal injuries at birth (Omran, 1971). The delivery of the multiparous mother is often a more rapid event and may result in an uncontrolled, precipitous delivery of the newborn. This occurrence is dangerous for both mother and infant and contributes to risk of serious injury to the newborn's neurological system.

Finally, the risks for children born into large families with short birth intervals continue beyond infancy. In the presence of poverty and environmental deprivation, several small children in the same household may find themselves vying for food; the result is poor nutritional intake and hunger. In a previous study among migrant farmworkers of Mexican culture (Littlefield, 1981), over half of the mothers revealed that they lacked the money to buy all the food their family needed, especially after departing from their home base, before payday upstream, and during the winter when unemployed at their home base. For these children the stresses of infections, parasites, and poor nutrition could lead eventually to retarded physical growth and development. The cycle would continue to repeat itself, except for the freedom which family planning confers on mothers to make choices for themselves and their families.

Influences and Attitudes

The factors which contribute to high risk pregnancies and to higher fertility, generally, have been the focus of much attention over the past two decades. In both developed and developing countries several influences remain prominent: education, employment, poverty, perceived value of children, religion, and social pressures which restrict women's roles and behaviors. The first three are interrelated and may be considered both causes and consequences of higher fertility. Lack of education may limit employment opportunities confining the young woman's role to that of childbearing and childrearing. Early pregnancy may prompt the adolescent to drop out of school, with little or no preparation for employment, and see no other options than to continue bearing children. For many young women caught up in poverty, school is perceived as an irrelevant luxury. The need to generate family income precludes continuing an education, a survival strategy which, unfortunately, operates against the probability of ever breaking out of the poverty cycle. Analysts hypothesize that change in any one of a variety of areas could result in a reduction of high risk pregnancies. These influences and attitudes which have both positive and negative effects on fertility are examined in this section and are reflected in the case histories in Appendix A.

1. Education

The impact of education on fertility is well documented worldwide: with increasing education, women have fewer children. Newland (1977) reviewed the salient literature and concluded that there are several avenues by which this process occurs:

> First, women are exposed as students to new sources and new kinds of information. Secondly, by taking women outside their immediate families, school may bring about a change in their self-images,

fostering independent values and aspirations. Thirdly, exposure to education - even if it is indirect - can change the nature of maternal ambitions: mothers who want their children to go to school have an interest in limiting their families to the number of children they can afford to educate. Finally, education may motivate women to pursue activities outside the family, and equip them with the skills to do so (Newland, 1977, pp.8-9).

Translating this into the migrant experience, young migrant women who can be encouraged to stay in school have the opportunity of developing their knowledge and skills in all areas of social and cognitive functioning, increasing their understanding of self and personal goals, expanding their awareness of norms beyond their family and community, and enlarging their understanding of issues related to sexuality and sex roles. Finally, young migrant woman may begin to realize that education and employment are other means of status and success before assuming the role of wife and mother.

The relationship between education and fertility among women of Mexican culture is reflected in the findings of the U.S.-Mexico Border Survey (Smith, Warren & Nunez, 1983). The mean number of children born to women who had less than eight years of education was 5.23; the mean number born to women who had completed high school was only 2.97. Women who had less than eight years of education were much more likely to report that their last birth was unplanned than women who had gone beyond eighth grade. Furthermore, women who had less than an eighth grade education were at highest risk for an unplanned pregnancy by virtue of their fertility status and lack of contraception. As already stated, the relationship between education and pregnancy is complex in terms of which factor is the cause and which is the effect. By facilitating access to both family planning methods and information, migrant health care providers can at least reduce the possibility that an unplanned pregnancy will be the cause of lower educational achievement.

2. Employment and Income

The relationship between employment and fertility is complicated because of intervening variables related to socioeconomic status and education. Increasing education usually expands life options. More opportunities develop to access the better job; the better job results in higher income. While work outside the home is commonly related to lower fertility, this generalization unfortunately, does not extend to agriculture-related employment (Newland, 1977). Involvement in agricultural labor does not require any formal education and is compatible with childbearing and childrearing. In fact, agricultural labor is most clearly related to poverty, in terms of income, deprivation, life style and social status.

Recent surveys in Mexico document the link between agricultural labor and fertility (Hernandez, Porras & Zuniga, 1982). Women whose occupational status (or that of their husbands) was "agricultural wage-earner" were much more likely to have married before age 20, to have never used contraception, and to have breastfed their last liveborn longer than women in higher occupational status groups. The fertility rates of women in the agricultural wage-earner group were significantly higher than those of higher occupational groups.

While the U.S.-Mexico Border Survey (Smith, Warren & Nunez, 1983) did not look at specific occupations, their analysis of level of poverty is relevant to the extent that agricultural workers comprise the lowest socioeconomic group in the United States (Duncan, 1961). Women of Mexican culture whose income was below poverty level had a mean of 6.06 children while those whose income were 200 percent of poverty or more had a mean of 2.88 children. Twenty percent of those whose incomes were below poverty level reported that their last pregnancy was unwanted in contrast with only 7.6 percent of those whose incomes were 200 percent of poverty or more. While the mechanisms of low education, occupation, poverty, and rural residence are not clearly understood, their contribution to higher fertility and high risk pregnancies cannot be denied.

3. Value of Family and Children

Traditionally, a high regard for family and children has been attributed to persons of Mexican culture. La familia, or the family, has been characterized as "therapy for enduring in an insane society...a mighty rock in a stormy sea", the provider of "spiritual, emotional and biological needs...The giving, the sharing, the building together, the tolerance of intolerable actions, the faith, the spirit of the familia are drawing forces which we cannot easily turn our backs on" (Armas, 1972 pp. 10-14). As a powerful motivating force, concern for the family pervades the life of its members, expecially among the lower class. Rodriquez and Casaus (1983) reviewed literature related to the Latino family and noted myriad references to cohesiveness, interdependence, cooperation and emotional and material support. In contrast with the dominant cultural orientation in the United States, the Mexican culture emphasizes cooperation and balance within groups rather than competition. These values serve to strengthen the family and enchance its stability and well being.

In the traditional family Mexican heritage, children have a special place of importance. Family ties are reinforced between grandparents and grandchildren; extended families live in close proximity to one another and are often available for assurance and support. In this context, it is not surprising that the larger family is valued among Mexican culture people. Several studies have dealt with the issue of ideal family size among Mexican culture women. Sabagh (1980) analyzed use of contraceptives among Los Angeles Chicanas and concluded that their higher fertility was a consequence of their desire for larger families rather than unsuccesful family planning. In a national study of fertility related attitudes, Darabi, Namerow and Philliber (1983) noted that Mexican-Americans desired more children than either Whites or Blacks. This was consistent with a survey comparing migrant Chicanos with Blacks, Whites, Cubans, and American Indians with the conclusion that migrant women desired larger families (Linn et al. 1976, 1978).

The value of children was explored by Bulatao (1984) in a background paper for the United Nations. He examined the findings of several national surveys and concluded that three major categories of child value existed: 1) instrumental assistance which included help in housework, help in old age, financial help, family name or line; 2) rewarding interactions which included companionship and love, happiness, play and fun, distraction, and marital bonding; 3) psychological appreciation which included living through children, achievement and power, character and responsibility, incentive to succeed and fulfillment. The "disvalue" categories were: 1) financial costs, 2) child-rearing demands, 3) restrictions on parents, and 4) costs to social relationships. Of special interest was the finding that the values of children usually paralled those of their parents, indicating that norms related to family size and value of children are learned very early.

Applying the foregoing to the development of intervention principles for high risk pregnancies among migrant farmworker women is challenging. Family and children are held in the highest esteem by this population. Furthermore, children can be usefully incorporated into the extended family labor unit or "crew" and contribute to the meager family income. For those who do not have citizenship in the United States, the privileges of government Social Security are not a reality; remittances of employed children during old age could be a decided asset. However, the same respect and esteem for family extends to each family member, especially the mother who is the integral force maintaining the cohesion of the Mexican culture family. If the health risks for mothers and infants related to early, late, closely-spaced and many births were known to the women and their families, it is likely that the family would support measures which would promote the health of family members. Indeed, the PROFAM study in Mexico (Population Council, 1979) indicated that the wife's health was a large concern for husbands. Moreover, the case studies accompanying this report (to be added) indicate that some attitudes related to ideal family size may be changing among migrants. While only a small sample, most of the women over age 35 years expressed the desire for no more children and also stated that they hoped that their daughters would have fewer children than they had. The health care provider must be careful not to allow generalizations about low income, low education migrant women to inhibit an initiation of the topic of family planning, especially if the woman is at risk. Concern for family and children may well be utilized as a motivator for the acceptance of family planning.

4. Social Pressure

The notion that childbearing is a conscious decision made freely by couples without external influence is simplistic and unrealistic. Anthropologists and sociologists have repeatedly verified that the sociocultural environment exerts continuous pressures on the individual to conform to cultural norms or rules of behavior (Mason, 1982; Freedman, 1975). In the realm of fertility, Shedlin (1982) noted the influences of spouses, mothers-in-law, extended family, and community on women in a rural Mexican village. Interviews revealed a fair degree of congruence in terms of the minimum, ideal, and maximum number of children a women should bear, the age at which childbearing should begin and end, and how children should be spaced. A decision-making model developed from the same data recognized the influence of cultural norms on the attitudes of couples toward conception and contraception (Shedlin & Hollerbach, 1981).

As part of the national priority to reduce the fertility rate, the Mexican government initiated an intensive campaign in 1977 which incorporated both increased communication and increased services related to family planning for low-income families nationwide. To evalute the effects of this program, the government sponsored several studies to measure changes which had occurred in attitudes and behaviors of peasant farmers and urban slum dwellers over the one year period, 1980-1981. The theoretical framework for this evaluation was derived from Bandura's social learning theory (Bandura, 1965). Essentially, the researchers hypothesized that, "A great part of an individual's conduct, his values, his perceptions are...acquired in the process of his interrelationship with his environment" and that "reciprocal influences between micro, macro groups and the individual occur by means of communication" (Covarrubias & Gonzalez, 1982, p. 124). The macro-social structure included government policies and actions; the micro-social structure included the norms of family, community and health care providers; the individual included personal needs, cognitions, attitudes, expectations and acquired behavior. If the communication program was successful, both mass communications and interpersonal communications would have contributed to changes in the beliefs, attitudes, and behaviors of the individual.

The challenge in executing an effective program in Mexico lay in the fact that previously, the traditional macrosocial structure had supported standards, values and models of behavior that were opposed to family planning (Covarrubias and Gonzales, 1982). The Mexican National Anthem proclaims, "Think, oh beloved Fatherland, that Providence in each son has given thee a soldier." As recently as 1970, President Luis Echeverria had proclaimed, "The development and greatness of a nation lie in the number of its inhabitants," (Echeverria, 1970). The influence of the macro-structure on the micro-structure was reflected in popular sayings such as, "One must have the children that God sends," "A woman is like a shotgun; she should be kept loaded and behind the door," "A man is more of a man the more sons he has" (Covarrubias & Gonzales, 1982, p. 128). In order for measurable change to occur at the level of the individual, immense change and related communications had to occur at all levels above the individual, in the micro-social structures as well as the macro-social structures.

The success of the Mexican initiative is now well publicized. Significant changes were recorded in the attitudes of both the rural and urban poor in favor of family planning. Information about family planning was disseminated more widely, and the willingness of people to accept it was increased significantly. Mass communications, e.g. pamphlets, posters, radio dramas, were successful in promoting positive attitudes about family planning. Official messages related to available services and contraceptive methods were highly effective. Interpersonal communication, was deemed the most effective. In terms of embarrassment related to talking with others about family planning, a measurable decrease occurred in conversations between friends and between parents and children, but, unfortunately, not between spouses (Covarrubias & Gonzalez, 1982).

Communication between husbands and wives is critical to the decision-making process related to fertility. Shedlin and Hollerbach (1981) concluded that lack of discussion of family goals relegated rural Mexican couples to "acceptance of pregnancies with ambivalence or regret and feeling powerless to remedy the situation in an acceptable, understandable manner." A study done in El Salvador reached similar conclusions, i.e. the lack of husband-wife communication about family planning was ranked the most significant reason by couples for not using contraception (Bertrand, Zelaya, Cisneros & Morris, 1982). In the Mexican survey sponsored by PROFAM (Population Council, 1979), 35 percent of the total survey sample had never discussed the subject of birth control with their partners. Women were more likely to initiate the topic, and the discussion was more likely to occur with each subsequent birth, but after the birth of the first child. The reasons given by women for bringing up the topic were often related to fears that too many children would deplete their health and appearance. In group discussions of the issue, both males and females declared that the final decision was invariably made by the husband. Among those who were current or ex-users of contraception, only a minority would admit to being influenced by any external sources. Males identified physicians as a primary influence (51%), wife's family (2%), neighbors and friends (5%), priests (0%), the population situation (5%), and other (11%). The response of females was similar except for a higher percentage being influenced by neighbors and friends.

Male opposition to birth control was seen to be supported by his peer group, his mother and sometimes the wife's family, and the doctor who might respect his decision. Male cooperation with birth control was influenced by government publicity about the issues, doctors who explained the seriousness of risks to the wife's health, and the wife who could convince the husband of the economic advantages of fewer children (Population Council, 1979).

Women's decisions to practice family planning were supported by doctors who favored family planning, neighbors and female friends, and the government publicity about family planning. Significant negative influences were: husbands, doctors opposed to contraception, husband's family (mother-in-law), and, more rarely, the Church (Population Council, 1979).

Clearly, influences on the decision of both males and females to practice family planning are myriad. While many individuals and couples deny external pressures on their attitudes and behaviors, research would refute this assumption. At the micro level, both males and females are influenced by their partners, family, friends, community, and physicians. At the macro level, the influence of government is considerable, both in terms of policies and funding of programs. Cognizant of these influences, health care providers can promote family planning more effectively for those migrant women who are at greatest risk for health consequences related to pregnancy.

5. Religious Pressures

The majority of migrant farmworkers of Mexican culture are Catholic, but the degree to which individuals interpret and practice their religion varies. Madsen (1964) reported that, among the Mexican Americans in one community in southern Texas, the women were more likely to attend Mass along with their daughters. Boys went less regularly after age 13, and the attendance of adult males was irregular. Homes reflected a strong religious orientation with the maintenance of small shrines complete with candles, holy water, incense, blessed palm leaves, pictures of Jesus and Mary, and pictures of deceased family members. The saints and the Virgin Mary were protectors who could be called upon for help when special needs arose.

The attitude of the Catholic Church toward birth control has remained constant despite advances in scientific technology to prevent conception. Essentially, Catholics are taught that only natural means may be used to prevent pregnancy, i.e. the rhythm method. This was reiterated by the Vatican's official delegation to the recent International Conference on Population in Mexico. They requested removal of two sections from the recommendations which affirmed the rights of couples and individuals to decide the number and spacing of their children, as well as access to information and means of fertility control. The Vatican delegation was particularly opposed to promoting access to contraceptives among unmarried adolescents. Maintaining the traditional stand of the Catholic Church against abortion, sterilization, and contraception, support was given to the recommendations proposing natural family planning. In contrast, the representative from Turkey announced that the Muslim scriptures supported family planning, especially the responsibility that parents have for their children and family, and the related necessity not to have more than they can appropriately care for (News Mexico 84, August 9, 1984).

How official doctrine gets interpreted by the individual Catholic or the local parish priest may vary considerably. The Vatican delegation in Mexico City did not recognize special family planning needs related to health risks for mothers and infants. However, in practice, the health risks for women who have had too many, too late and too closely-spaced pregnancies could elicit support from their local priest. This was illustrated in a report by the director of a rural hospital in southern Mexico. He described the situation of an older woman who had many pregnancies and wanted to use birth control to terminate childbearing. Upon discussing this with the local priest, she was told that this was not a religious problem but a medical problem and that she should make an appointment with a physician as soon as possible (Leyva, May, 11 1984).

For the health care provider, the foregoing suggests that religion may be an influence in the lives of migrant farmworkers of Mexican culture, especially the women. The strength of this influence varies with the individual but findings of the PROFAM study (Population Council, 1979) are relevant. Specifically, among current and former users of contraception, no males reported that the priest had influenced their decision about family planning; only one percent of the women reported being influenced by a priest. Of course, what is unknown is the influence of religion among nonusers and "never" users. Only counseling with the individual at risk will reveal the strength of this influence and the resulting attitude.

Contraceptive Methods for Women: Trends and Constraints

Contraceptive Prevalence Surveys completed worldwide now indicate that both the knowledge and use of contraceptive methods by women have gradually increased over the past two decades. Older women who have reached their ideal family size prefer sterilization while younger women are likely to use the pill (Morris et al, 1981). Among women of Mexican culture, this same pattern prevails both in rural and urban Mexico, and in the United States along the Mexican border. This section discusses the methods most commonly used as well as related attitudes and constraints.

1. The Pill

The pill remains the most popular method for those who wish to temporarily cease childbearing or to control the spacing of their pregnancies. It is also widely known among both rural and urban women worldwide. Recent surveys in Mexico revealed that 52 percent of rural women had unassisted knowledge of the pill. Moreover, among rural women who were contraceptive users, 34 percent used the pill. Next most common were traditional methods such as withdrawal and rhythm (23%), tubal ligations (23%) and IUDs (11%). Preference for the pill was reflected in the proportion of married rural women (41 percent) who reported that their use of contraception was to space pregnancies as opposed to terminating childbearing (Correu et al., 1982).

In the U.S.-Mexico Border Survey (Smith, Warren & Nunez, 1983), the pill was the method used by most never-pregnant Mexican Americans (46%), by most contraceptive users in the age group 15-29 years (48%), and by most overall contraceptive users (32%). In Mexico and along the United States-Mexico border, part of the attractiveness of the pill is ease of access. Mexican pharmacists dispense a variety of oral contraceptives without requiring a physician's prescription. Indeed, among married Mexican Americans in the U.S.-Mexico Border Survey who relied on the pill, 10.3 percent reported obtaining their supply in Mexico. None of the married Anglos reported this practice (Smith, Warren & Nunez).

It is not without some trepidation that women of Mexican culture are using oral contraceptives. The PROFAM study (Population Council, 1979) indicated that about one third of the users of the pill in Mexico reported either actual or potential side effects which concerned them. Over half of the ex-users reported that side effects had prompted them to discontinue their use. Among those who had heard of the pill but were not users, 21 percent claimed that fear of adverse health effects was the primary deterrent. In the group discussions, three concerns related to the pill were expressed most frequently by both men and women: fear of cancer, fear of birth defects, and the belief that the pill contributed to nervousness among its users.

Although not well publicized, the safety of oral contraceptives has now been established based on the accumulation of 20 years of data. Health risks are not only lower than previously suspected, but health benefits are higher. Rinehart et al. (1982) reviewed the currently available health data related to users of the pill (predominantly white) in the United States and United Kingdom, and identified the major health risks. The greatest danger is the increased risk of circulatory system disease and is more likely to occur in women over age 35 years, especially among women who smoke. For nonsmokers under age 45 years and for all women under age 35 years, there were no differences in the death rates related to circulatory disease among pill users and non-pill users. In general, oral contraceptive use increased risks of: 1) venous thromboembolism (blood clots in veins), 2) ischemic heart disease, including heart attack, 3) cerebrovascular disease (strokes), and 4) hypertension (high blood pressure). Of particular interest is the conclusion that oral contraceptive use is not correlated with higher risk of breast cancer. Nor is use of the pill related to permanent impairment of fertility, birth defects or miscarriages when taken prior to pregnancy (Rinehart et al., 1982). Among health benefits chronicled in the studies are: protection against pelvic inflammatory disease, ectopic pregnancy, endometrial cancer, cancer of the ovaries, benign breast disease, and relief from a variety of menstrual disorders including irregularity, premenstrual tension, excessive bleeding and cramps (Rinehart et al., 1982). The review concluded that risks of pregnancy or risks related to other contraceptive methods far exceed the health risks related to the pill, even for women over age 35, but that other methods should be recommended for this older age group.

2. Intrauterine Devices (IUD)

While not as common as oral contraceptives, IUDs were spontaneously identified (unassisted) by 28 percent of rural Mexican women. Of current rural female users of contraception, 11 percent depended on an IUD (Correu et al., 1982). This proportion was identical to the percentage of married Mexican American women in the U.S.-Mexico Border Survey (Smith, Warren & Nunez, 1982) who were current contraceptive users reporting use of the IUD (11%). For these women, their source of the IUD was primarily from either private physicians or clinics (41%), or Planned Parenthood clinics (29%).

Side effects of IUDs and their lack of availability can present deterrents to their utilization. In group sessions related to the PROFAM study (Population Council, 1979) Mexican women reported that the IUD was convenient, but less so than sterilization or oral contraceptives. Some negativism surrounded side effects such as increased menstrual bleeding, cramping, and pain, as well as the presence of a foreign apparatus in the human body. While group discussants had only limited knowledge about IUDs, many did express high interest in them; IUDs had fewer perceived hazards than the pill or the surgery related to female sterilization. In the interviews with migrant farmworkers counducted in conjunction with this project a major obstacle was the expense of the procedure at one local clinic: a prepayment of $20 which was beyond the means of several families. For these women the financial constraint was very real and could result in yet another high risk pregnancy.

According to a recent review by Liskin (1982), IUDs are, generally, considered to be a safe, effective, and appropriate method for many women. Women who have already given birth and who are not exposed to sexually transmitted diseases are the best candidates. Discontinuations are most often related to pregnancy, expulsion, removal for bleeding or pain, and removal for either medical or personal reasons. The occurrence of pelvic inflammatory disease (PID) among IUD users is higher than among non-users, as well as septic abortion. The latter was found to be more highly related to use of the Dalkon shield, an IUD which was withdrawn from the market in the 1970s. The actual mechanism behind the increased incidence of PID among IUD users is not completely known. Most probable contributors include: increased menstrual bleeding, a sterile inflammatory reaction of the fallopian tubes and endometrium, the introduction of bacteria along with insertion of the IUD, and ascent of bacteria along the route of the string. Most successful IUD insertions have included 1) careful screening to identify women in a stable marital relationship who have already born a child, 2) insertion by a skilled practitioner, and 3) careful follow-up to provide support and monitoring (Liskin, 1982). Migrant women qualify in each of these areas and must be allowed to benefit from this effective method of family planning.

3. Female Sterilization

For women who want no more children, sterilization is the contraceptive of choice. The U.S.-Mexico Border Survey (Smith, Warren & Nunez, 1983) discovered that over one-half of Mexican Americans currently using medical methods of contraception were interested in sterilization. Those who had undergone the procedure were of higher parity than Anglos, and a greater proportion reported that their last births had been unwanted. Among Anglos, sterilization (male and female) was the most common contraceptive method; among Mexican Americans, sterilization was second. The high risk, low-income migrant farmworker woman who has achieved her ideal family size is a prime candidate for sterilization but may be denied the privilege because of poverty and bureaucratic regulations.

Some indication of the dilemma experienced by low income rural women is reflected in the findings of recent Mexican surveys. Correu et al. (1982) noted that among rural Mexican women, 58 percent engaged in family planning to terminate childbearing. However, only 23 percent had obtained tubal ligations. The PROFAM study (Population Council, 1979) indicated that both males and females viewed female sterilization positively, especially for those who had achieved their ideal family size. If comparable statistics were available for the migrant farmworker population in the United States, similar findings might be disclosed. Obviously, more creative efforts must be pursued to obtain funding for those whose resources are limited but who recognize a health risk for themselves and their children in further childbearing.

4. Injections

A method which is currently illegal in the United States, but is registered for sale in over 80 countries worldwide, is the long-acting injectable steroidal contraceptive. The United Kingdom recently approved the drug for contraceptive use; the United Nations is encouraging its use internationally. Despite the support of global experts in favor of its approval, in October 1984, the U.S. Food and Drug Administration (FDA) again rejected the application from The Upjohn Company to retail Depo-Provera for contraception in the United States. The primary rationale for this action was based on results of animal studies carried out in the 1970s which noted breast lesions in beagle dogs exposed to large doses of sex steroids, and the occurrence of endometrial cancer in two monkeys at 50 times the human dose for 10 years. At the same time, the FDA did not withdraw its approval for use of Depo-Provera as a palliative treatment of inoperable, recurrent, and metastatic endometrial or renal carcinoma. Indeed, many international experts contend that Depo-Provera is as safe or safer than oral contraceptives which carry risk of cardiovascular diseases, and IUDs which are associated with increased risk of pelvic inflammatory disease. In a detailed account of Depo-Provera's history with the FDA, Schwallie reports, "Depo-Provera's contraceptive effectiveness and lack of estrogen-related risks may make it the most suitable contraceptive for some women - for example, women over 35 for whom estrogen-containing oral contraceptives may be contraindicated" (Schwallie, 1984, p. 568). While many believe that the current impass with the FDA is unfortunate, the acceptance of injectable contraceptives in the United Kingdom may culminate in more scientific, longitudinal research related to human users which will result in eventual acceptance of a long-acting drug in the United States.

Mexico continues to make injectable long-acting steroidal contraceptives available in both rural and urban areas. The advantages of the injectables are their relative effectiveness, safety, reversibility, noninterference with lactation, independence from coital activity, and lack of specialized professional involvement for administration (Shain & Potts, 1984). Indeed, in Mexico, a woman can obtain the medication from her pharmacist and have the local "injectionist" administer the shot every two or three months, depending on the dosage.

Dr. Manuel Urbina Fuentes (November 9, 1984) recently reported that use of contraceptive injections, especially Syngestal and Noristerat, is increasing in Mexico among the public sector, from 5.6 percent of female contraceptive users in 1976 to 10.6 percent in 1982. In comparison with urban public sector injection users, the proportion of rural public sector users of injections increased from 33 percent in 1978 to 54 percent in 1983. For women who choose the injection as their first method, their number of living children was close to the national average (2.8 in 1982); half of these users indicated that their use of the method was not to terminate childbearing but to space children (Urbina Fuentes, November, 1984). A previous study of Mexican users of Noristerat had indicated that discontinuation rates decreased with increasing age and number of living children (Meade et al, 1983). Most common reasons for discontinuance were amenorrhea and bleeding problems, both of which were complained of more frequently by women under age 30 years.

The PROFAM study (Population Council, 1979) supported Dr. Urbina's information. Mexican women in the survey and discussion groups perceived that the method was especially useful for women who wanted to space their children. Many of those who used and preferred the method cited convenience as its major advantage. Overall respondents perceived that the injections were nearly as effective as the pill, but with fewer health hazards.

Providers of migrant health care need to be aware of the availability of this method in Mexico. Migrant women who have received injectable contraceptives may be seen upstream for services related to family planning or other health concerns. It is not unlikely that some women may have their medication with them hoping to find an "injectionist". The response of migrant health care providers to these situations should be appropriate in terms of the contraceptive needs of the patient as well as the legal issues involved.

5. Natural Family Planning Methods

Natural or traditional methods of family planning are well-known and used by women worldwide. In Mexico, almost one-fourth (23%) of rural, female contraceptive users reported reliance on traditional methods, including rhythm and withdrawal (Correu et al., 1982). The U.S.-Mexico Border Survey indicated that about 4 percent of married Mexican American women used the rhythm method and an additional 8 percent reported relying on withdrawal (Smith, Warren & Nunez, 1983).

The World Health Organization studied the effectiveness of rhythm and concluded that it was relatively ineffective for preventing pregnancy even when participants had engaged in careful teaching. Major problems encountered were the lack of knowledge which women had of the events related to conception and the inaccuracies involved in predicting the fertile life span of spermatozoa within the female reproductive tract (Family Planning Perspectives, 1979). High rates of failure were associated with couples' deciding to "take a chance" and ignore the abstinence required to make the method work effectively.

The PROFAM study (Population Council, 1979) documented that few Mexican women really understood the method, especially women in lower socioeconomic groups and in rural areas. Many women had the erroneous idea that the midcycle period was the safest time for sexual activity when, in fact, it is the time when ovulation is most likely to occur along with conception if sexual intercourse takes place. Many women who used it realized that it was not very effective. Not surprising, men were more likely to prefer the method to women. All of this would suggest that the migrant health care provider should carefully counsel the couple in jeopardy of a high risk pregnancy to determine their motivation and understanding of the method before supporting their use of it to prevent conception.

6. Other Methods

Certainly other methods are available to women in the United States, but their use among the migrant population is either minimal or not well known. Diaphragms are an example of a highly effective contraceptive which is largely ignored by low income women of Mexican culture. Studies of knowledge, attitudes, and practices related to family planning in Mexico do not even mention this method (Correu et al., 1982). In the U.S.-Mexico Border survey (Smith, Warren & Nunez, 1983), less than one percent of all female contraceptive users relied on the diaphragm. While the PROFAM survey (Population Council, 1979) indicated that low percentages of respondents were aware of the method, usage was so low as to be comparatively uncalculable.

Contraceptive sponges, were introduced in the United States in the 1970s and they now have the distinction of being the first contraceptive approved for television advertizing in the United States (California). Impregnated with spermicide, the sponges are inserted against the cervix, and then removed and discarded within 30 hours after insertion. Their contraceptive mechanisms are attributed to the release of the spermicide, the absorption of semen, and blockage of the cervical opening (Sherris, 1984). Their acceptability cross-culturally is not known but, with the advent of TV advertising, they could be used more widely in the future.

An experimental method which could gain increasing recognition internationally is the Norplant, already approved for use in Finland. The new method consists of six small silicone rubber capsules containing a progestin widely used in oral contraceptives. Inserted under the skin of a woman's arm, the implants continuously release small amounts of contraceptive into the blood stream. The contraceptive effect is achieved within 24 hours and has a duration of five years. If pregnancy is desired, the implants can be removed and the woman will retain her prior level of fertility (Sivin et al, 1982; Population Management Feedback, 1984). If approved for use in Mexico, migrant health care providers can expect to see patients who are benefitting from this convenient method.

Delivering the Services

An effective approach to the provision of family planning services to migrant farmworker women must consider two avenues: clinic-based services and community-based services, both targeted to specific couples or individuals who have one or more of the identified risk factors. While most of the methods which are acceptable to women of Mexican culture entail the involvement of health care professionals, e.g., the pill, IUD, or sterilization, others may be appropriate for the involvement of a community-based family planning promoter. The latter could include teaching related to the rhythm method or other natural methods which might be preferred but not well understood by women who want to practice them.

The role of the community-based family planning promoter is not well developed in the United States but has been proven effective in developing countries (Foreit & Gorosh, 1978; Kols & Wawer, 1982). The primary functions of this health team member include introduction of the topic of family planning, general information about the methods which are available, introduction to services provided at the clinic and the procedures for accessing them, facilitation of appointment scheduling and transportation, and follow-up discussions focused on method utilization and related problems or concerns. To be optimally effective, the family planning promoter would be of Mexican culture, be fluently bilingual, and have a flexible schedule to facilitate meeting with migrant families in their homes after work or on weekends.

Affordable, acceptable clinic-based services are central to any effective program which purports to serve high risk migrant women. The characteristics of these services and the related personnel will largely determine the success to which it meets the needs of those who seek services. The PROFAM survey (Population Council, 1979) concluded that clinic physicians were significant "gate-keepers" to family planning information and methods, exceeding the families of both husbands and wives in strength of influence.

Whether the clinic is attempting to reach high-risk women with family planning information prior to conception, during pregnancy or in the postpartum period, certain aspects of service delivery are known to influence women seeking contraceptives. Shain (1980) summarized the most important qualities: waiting time, treatment by staff, convenience of clinic location and hours, privacy, and patient education. While these are areas which all clinics attempt to deal with, some are more successful than others in achieving positive results. In terms of waiting time, migrant families often take off from work to attend the clinic unless evening sessions are available;

hours spent in the clinic usually mean a reduction in pay. With efficient clinic organization and proper delegation of tasks, both the waiting period and the time spent receiving services can usually be expedited. It goes without saying that the positive attitudes of staff are crucial for any successful family planning service. Provision for privacy must be maintained prior to, during, and after examinations; this includes an environment conductive to confidentiality during any interviews related to the visit. Patients are more comfortable when they know what to expect; instructions concerning clinic procedures as well as education about any side effects or risks related to family planning procedures or methods are essential. Medical protocols should be established which allow for mimimal return visits to the clinic. The need for frequent examinations or frequent prescription refills should be reevaluated in terms of what the individual patient actually needs. Finally, because of their mobility, women who have received a service in one place will probably seek follow-up at another site. For this reason, any communication about the method instituted which needs to be conveyed to other providers should be given to the patient, ideally in the form of a portable record.

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CHAPTER II

ADOLESCENTS AND FAMILY PLANNING

Among society's most powerful norms are those governing sexual activity, especially among the unmarried. In many developing countries, girls are expected to marry at the onset of puberty and quickly assume the roles of wife and mother. This contrasts with the prolonged transition between childhood and adulthood fostered by industrialized societies during which sexual activity is often curtailed. This restrictiveness comes at a time when the emerging adult is undergoing rapid physical, psychological, physiological, social and sexual changes. Faced with the developmental task of identity formation, adolescents begin to internalize their own version of the norms and develop their own values, attitudes and beliefs, all in the presence of an environment charged with sexual stimulation.

Influences on Adolescent Sexuality

In the United States, the prevailing norms related to adolescent sexuality remain restrictive but attitudes have undergone changes especially since World War II. Chilman (1983) analyzed recent trends and noted a variety of pressures toward liberalism during the 1960s and 1970s with a shift toward conservatism around 1980. The movements related to civil rights, women's rights, free speech, youth, antiwar, peace, and counterculture, to name a few, pressured all of society's institutions. The period promoted personal and sexual freedoms and produced legislation which promoted sex education in schools, family planning services for teenagers, legalized abortions, and fewer restrictions on public distribution of sexually explicit materials in books, magazines, movies and television, all areas which would be criticized by traditional religious groups in the 1980s.

The overall impact of the liberal influences of the 1960s and 1970s on adolescents in the United States is difficult to assess but a review of studies focused on teenage nonmarital coitus indicate that teenagers became more sexually active during this period (Chilman, 1983). Lower-class and middle-class women become less restrictive between 1972 and 1975 (Mahoney, 1979). Heavy petting and nonmarital coitus increased among high school and college students (Vener & Stewart, 1974; Zelnik & Kanter, 1980). For many teens, this intimate behavior occurred within the context of steady relationships with some degree of commitment, as opposed to promiscuity or casual sex.

In addition to social influences, other factors associated with adolescent nonmarital intercourse, as summarized by Chilman (1983) are: age, dating frequency, being in love, peer influences, educational goals and achievement, psychological characteristics, family relationships and communication, religiosity, and poverty. More specifically, as adolescents get older, date more frequently and consider themselves in love, they are more likely are to experience intercourse. Because the peer group provides for many social needs related to acceptance and belonging, it exerts a large influence on social behaviors within the group; adolescents with sexually active friends are more likely to engage in similar behavior themselves.

Educational goals and achievement are positively correlated with postponing sexual activity, but the effect is difficult to measure because of interacting psychosocial and socioeconomic variables. Espousal to conservative religious beliefs is also associated with postponement of sexual activity. Certain psychological attributes such as low self esteem and alienation have been associated with nonvirginity. Adolescents who are unhappy at home, whose parents are in serious conflict with each or with their children are more likely to seek acceptance and love outside the home. Finally, poverty, when accompanied with social disorganization, deprivation, fatalism and hopelessness, is also found to be associated with nonmarital intercourse.

Unfortunately, there is little documentation of heterosexual behaviors and attitudes among adolescents of Mexican culture. One study of young Hispanic males in the Northeast revealed that, by age 15, about 90 percent had experienced intercourse. These males were all of Puerto Rican, Cuban, Dominican, or Haitian background. The mean age at which coitus had first occurred was 13 years. For both blacks and Hispanics, sexual experiences occurred earlier than for white males (Finkel & Finkel, 1975). Traditionally, Latin cultures have allowed males more sexual freedom than females, but restrictions on activities of the latter are gradually diminishing as the traditional Mexican values clash with modern Anglo values. The struggle of Hispanic parents to "protect" their daughters by keeping them at home after school and on weekends creates additional conflicts for adolescents who are striving for independence but caught between two cultures. One parent of Mexican culture in southern Texas bemoaned that, "Soon virginity will be as unknown among our unmarried girls as it is among the Anglos" (Madsen, 1964). Clark (1959) observed efforts of Mexican American parents in a California barrio to supervise and control the dating behaviors of their teenage daughters. Parents who had been raised in Mexico and had experienced close chaperonage before marriage were reluctant to allow their daughters to go out alone on dates at night. Typical of adolescents of other ethnic backgrounds, the girls resented the restrictions and arranged to meet their boyfriends without the knowledge of their parents. If premarital sex did occur, it was usually with one partner and rarely led to promiscuity.

The situation for migrant teenagers is complicated by their family's mobility. For those who are left behind without close supervision, opportunities for exploration may occur. If they migrate with their families, these young people must often leave their home base, schools and friends in April or May in order to be upstream in time for planting and cultivating. Social relationships experience a four-to-six month disruption unless the families of their friends are also migrating to the same areas as part of a larger crew. Upstream destinations often include substandard housing in isolated rural locations, a dearth of public transportation, nonexistant recreational facilities, and myriad inconveniences. Some are fortunate to be able to participate in summer education programs where new friendships might develop or previous relationships fostered. Most must work long hours in the fields where there is little opportunity for socializing. After work there is more toil for young females who are expected to assist their mothers in caring for younger children, cooking, washing clothes, or cleaning their temporary housing units. Without transportation, there is little opportunity to leave the camp for recreation. Moreover, those who might visit nearby communities often find a poor reception because of their status as downstream migrants. Returning to their home bases in September or October, these young people face the frustrations of a late startup for the fall school term. The simple solution would be to drop out and look for early entrance into the adult world by way of employment or marriage. However, little is known of the impact of this lifestyle on the social or sexual development of migrant adolescents.

The Risks for Sexually Active Adolescents

Adolescent boys and girls in the United States began sexual intercourse at earlier ages in 1979 than in 1973, (Alan Guttmacher Institute 1974, 1981). By age 19, 80 percent of males and 70 percent of females had intercourse. About half of the 15-17 year-old boys and one third of the girls in the same age group reported being sexually active. In the youngest group, ages 13-14 years, 18 percent of the boys and six percent of the girls had had intercourse. As the age at which teenagers initiate sexual activity lowers, and, as increasing numbers of teens are engaged sexual activity, there is obviously an increased need for both sex education and contraception at earlier ages. Unfortunately, many teenagers possess neither the knowledge nor the methods to prevent conception and are at risk for pregnancy, abortion, and childbirth, conditions which are considered serious for adolescents worldwide.

1. The Risks of Pregnancy

The percentage of all adolescents who became pregnant in 1978 in the United States rose to eleven percent, a one percent increase from 1973. Concentrating only on those adolescents who were sexually active, the percentage who became pregnant dropped from 27 percent to 23 percent between 1973 and 1978 (Alan Guttmacher Institute, 1981). These statistics give some support to the effectiveness of education and service programs aimed at adolescent sexuality; more teenagers were using some method of contraception more consistently than previously. However, half of all first premarital teenage pregnancies occurred in the first six months of sexual activity and more than one fifth occurred in the first month after initiation of sexual intercourse. Furthermore, those who had their first intercourse at age 15 years or younger were nearly two times more likely to get pregnant than those who waited until age 18 or 19 years. This directly relates to the finding that girls having intercourse at earlier ages are less likely to use contraception (Zabin, Kantner & Zelnik, 1979).

The risk of pregnancy among teenagers is augmented by their delay in using effective contraceptives, often for a year after initiating sexual activity (Zelnik & Kantner, 1977, 1978). This procrastination is reflected in a survey of teenagers attending urban family planning clinics for the first time. Only 14 percent came prior to first intercourse to obtain protection; over one third were concerned about suspected pregnancy. Those already engaged in sexual activity were asked why they delayed coming to the clinic. The reason cited most often was, "I just didn't get around to it," followed by fear that their family would find out, waiting for a closer relationship with their boyfriend, fear of the pelvic exam, and fear of side effects from contraceptives. During the period before the first clinic appointment, many reported using nonprescription methods, predominantly condoms and withdrawal. Only one-fifth of contraceptive users reported using a method consistently. Among those who suspected pregnancy, 23 percent had relied on withdrawal during their last intercourse (Zabin & Clark, 1981).

2. The Risks of Abortion

The U.S.-Mexico Border survey revealed that unmarried Anglo teenagers were more likely to be sexually active than Mexican Americans. Among those who were age 15-19 years, 26 percent of the Anglos and 13 percent of the Hispanics were categorized as "in need of contraception" because of being sexually active and neither pregnant nor seeking pregnancy at the time of the interviews. However, Mexican American, unmarried, sexually active teenagers were more likely than Anglos to be in need of but not using contraception, respectively, 47 percent and 39 percent. Not only were sexually active Hispanics less likely to be using contraception, but those who did use contraception were more likely to use organized programs as their source rather than private sources. Analysts conclude that any cutback in federal funds for family planning would have a large impact on low income Hispanic adolescents, increasing their risk of pregnancy (Holck, Warren, Morris & Rochat, 1982).

Between one third and one half of adolescent pregnancies result in abortion (Alan Guttmacher Institute, 1983). Legal abortions performed before the sixteenth week of pregnancy in the United States are, generally, safe procedures and less dangerous than childbirth (Alan Guttmacher Institute, 1981). Those performed in the second trimester are more complicated, more physically dangerous, and more psychologically distressing. Unfortunately, teenagers are more likely than older women to postpone taking action related to their pregnancies and thereby increase their risks for morbidity and mortality (Chilman, 1983). If the trend toward conservatism in the 1980s blocks access to legal abortions, as occurred in Colorado in 1984, the adolescent birth rate will likely increase along with complications related to late or illegal, septic abortions.

3. The Risks of Childbirth

Although the majority of adolescent pregnancies are unplanned and unwanted in the United States, most do result in childbirth. Furthermore, the adolescent birth rate in the United States is higher than that of any other developed country, excluding those in Eastern Europe. The number of births per 1000 women under age 20 in the United States in 1978 was 52, compared with 18 in West Germany, 21 in Spain, 32 in United Kingdom, and 33 in Canada (Alan Guttmacher Institute, 1981). Young females experiencing pregnancy, labor and delivery unknowingly place themselves and their newborns at risk for serious health consequences, more serious for themselves than any side effects of contraceptives. In the United States, the maternal mortality rate in 1982 was 11.1 per 100,000 live births to women age 15-19 years. This rate is ten times higher than the pill-related mortality rate of 1.2 per 100,00 nonsmoking users in that same age group (Family Planning Perspectives, 1982).

Morbidity and mortality risks experienced by adolescent mothers and their newborns are higher than for mothers age 20 years or more. Hunt (1976) documented these risks as follows: first and/or third trimester bleeding; severe anemia; complications of labor, including prolonged and difficult labor and cephalopelvic disproportion; toxemia of pregnancy, including preeclampsia and eclampsia. In addition to these risks, adolescents who have intercourse and pregnancy at early ages also appear to be at higher risk for later development of cervical cancer.

The infants born to adolescent mothers are more likely to face additional risks, specifically: prematurity, low birth weight, increased congenital defects, increased mental and physical handicaps, and increased neonatal and infant morbidity and mortality (Hunt, 1976). Campbell (1968) asserted that, "The girl who has an illegitimate child at the age of 16 suddenly has 90 percent of her life's script written for her." There is some evidence that the life script for the infant whose mother is a high school dropout with a low paying job or a desperation marriage may have its own set of problems, including discrimination, neglect, abuse or abandonment.

Contraception for Adolescents, Program Implications

No single method of contraception is satisfactory for all adolescents, males or females. The ideal contraceptive would be "totally safe, completely effective, reversible, easy to obtain, simple and convenient to use, and which requires minimal planning and maturation" (Hunt, 1976). Unfortunately, this contraceptive does not exist. Sexual activity of adolescents is often sporadic and unplanned, with value associated with its being "natural", characteristics which deter preplanning and ongoing motivation. Those who provide contraceptive services to adolescents must carefully consider a variety of factors when assisting the individual adolescent to make an informed choice. These factors include age, parity, personal characteristics, cultural and environmental influences, sexual habits such as number of partners and frequency of intercourse, previous history of sexually transmitted disease, medical contraindications, and the acceptability and availability of abortion as a backup. The well-informed counselor must have current knowledge about the advantages and disadvantages of the various contraceptives, their cost, side effects, reliability, methods of use, and where obtained (Chilman, 1983). This section looks at knowledge and attitudes of adolescents related to contraceptives, the appropriateness of different methods for them, and programmatic implications.

1. Knowledge and Attitudes of Adolescents Related to Contraception

In order to approach adolescents effectively about sexuality and contraception, health care providers must have an appreciation for the sources and accuracy of current information, and the range of attitudes which adolescents possess related to the topic. Several studies have looked at these issues. A survey of male and female students in a large mid-western high school revealed that peers were the primary source of overall sex information (37%) followed by literature (22%), mother (17%) and the school (15%). Females were more likely to depend on their mothers for information while males were more dependent on peers. Some concepts related to contraception were learned before age nine years (3%), but the bulk was absorbed from 9-11 years (30%) and 12-13 years (46%), and the remainder after age 13 (21%). One-third of the information related to contraception was either distorted or highly distorted, not surprising when peers were identified as the most common source for this information (Thornburg, 1981).

A previous study of contraceptive knowledge and attitudes among Hispanic, Black and White high school males in the Northeast concurred that male friends were the primary source of contraceptive information for all three ethnic groups (Finkel & Finkel, 1975). While 90 percent of the students knew that condoms prevented pregnancy, this knowledge did not appear to influence behavior. Among sexually active Hispanics, one-fourth had used no contraception at last coitus; one-third relied on withdrawal or douche; least utilized were female methods (23%) and the condom (19%). Over half of all the males believed that contraception was the responsibility of the female. The Hispanics were all of Puerto Rican, Dominican or Haitian backgrounds.

Because schools can play a significant role in educating adolescents about contraception and, thereby, reduce high risk pregnancies among this age group, the realities of sex education in junior high and high schools are discouraging. A nationwide Gallup Youth Survey (1978) found only 43 percent of 13-18 year old males and females had sex education in school; only 31 percent reported being taught anything about contraception. An equally serious deficit in sex education was discovered when only 37 percent of women aged 15-17 years could identify the time of greatest risk of pregnancy during the menstrual cycle (Zelnik & Kantner, 1977).

In addition to limited or distorted information about contraception, other factors primarily related to failure to use effective methods may be categorized as demographic or psychological/attitudinal (Chilman, 1983). Demographic factors which appear to be associated with failure to use contraceptives, pertinent to migrant adolescents of Mexican culture are: age less than 18 years, unmarried, low socioeconomic status and minority ethnic status. Psychological/attitudinal factors relevant to the same group could include feelings of fatalism, incompetence, powerlessness or alienation, passivity toward life, a dependent approach to male-female relationships and risk-taking. In an earlier discussion of the misuse and rejection of contraception, Sandberger and Jacobs (1971) recognized a full array of psychological/attitudinal responses to sexual activity which could be detrimental to effective use of contraceptives, specifically: denial, love, guilt, shame, gamemanship, sexual identity conflict, hostility, masochism, erotism, nihilism, fear and anxiety, and opportunism. Clearly, the responses of adolescents to sex education, contraception and sexual activity are complex. Only through careful, sensitive counseling can the social, cultural and emotional components be identified and dealt with as they present obstacles to a recognition for and acceptance of contraception.

2. Contraceptive Methods Utilized by Adolescents

Oral contraceptives are considered to be the most effective contraceptive method for adolescent females but, for those whose sexual activity is infrequent, motivation may not be sufficient for the necessary, consistent compliance with ingesting a daily pill. For those who are motivated, the pill has several potential advantages (Chilman, 1983; Hunt, 1976). Because protection is not coitus-related, it does not interfere with spontaneity, pleasure nor the aesthetics of sex; the male partner does not need to have any knowledge that the female is using contraception, nor does he need to assume any responsibility in order for the female to be protected. Physical benefits for the female include regulation of the menstrual cycle and the possibility that menstrual flow and cramping will be diminished. Disadvantages to the pill include an initial medical visit and regular follow-up as well as side effects such as breakthrough bleeding, nausea, and breast discomfort. If the young adolescent's menstrual cycle has not been regular for a one-two year period, there is evidence that amenorrhea may result after discontinuing the pill. This risk can only be weighed against the health risks related to pregnancy, abortion, and/or childbirth for the individual teenager. The preference for the pill is reflected in a study of young women receiving services from family planning clinics in California between 1976 and 1979. Over 72 percent of females 10-14 years old relied on the pill as did over 75 percent of females 15-19 years old (Aved, 1981). For effectiveness, contraindications and risks associated with the pill, see Appendix C.

Interauterine devices (IUDs) have been used successfully by adolescents but significant risks exist, specifically, perforation of the uterus and vas-vagal reaction on insertion, and following insertion: expulsion, pain, pelvic inflammatory disease, and the rare possibility of tubal pregnancy. Other disadvantages are increased menstrual flow and cramping; the need for an initial visit to a physician and annual followup; the need to check the string regularly to determine whether the IUD remains in place, an act which requires some manipulation of the genitals and which may be unpleasant for some teenagers. The advantages of IUDs for adolescents who would not be motivated to take the pill daily include: no interference with the spontaniety, pleasure, nor aesthetics of sex; and a medical expense which is only incurred on an annual basis. Furthermore, some progress has been made on both plastic IUDs and smaller copper IUD devices, characteristics which may reduce explulsion rates and necessitate fewer removals because of pain or bleeding (Hunt, 1976). See Appendix C for additional information related to effectiveness, contraindications and risks.

Diaphragms with spermicidal cream or jelly are an effective means of contraception for adolescents who have concerns about side effects of the pill or IUD. Several disadvantages exist for adolescents, however. As with the IUD, an initial medical visit must be made for fitting of the diaphragm.

Follow-up visits are also necessary to check on the fit of the diaphragm, a factor which may be affected by either weight gain or loss. Teenagers complain predominantly about insertion difficulty and messiness with a need to handle genitals, the need to plan and prepare for each intercourse, the need to carry the diaphragm if intercourse is anticipated away from home, interruption of coitus to insert the diaphragm, fear that parents may find the diaphragm, and distaste for partner if engaging in oral sex. The advantages are the lack of side effects, and need for use only when having intercourse, a benefit for those whose sexual activity is infrequent or sporadic. The diaphragm has not been widely used for adolescents in developing countries, but continuation and success rates in the United States favor broader recommendations for its use here (Hunt, 1976).

Spermicides, either foams or suppositories, along with condoms are used extensively by adolescents, probably because the supplies are inexpensive, readily available over-the-counter, and require no prescriptions. Used in combination, spermicides and condoms are highly effective contraceptives with several advantages. There are no side effects and, in fact, the spermicide may provide additional lubrication facilitating intercourse. The condom involves the male in taking responsibility for his sexual behavior and, equally important, provides protection against the increasing incidence of sexually transmitted diseases. The disadvantages of the condom with spermicide include coital disruption, decreased sensation for the male, messiness related to the spermicide, the need to plan ahead and have the proper supplies available, and the possible embarrassment of the shy female in insisting that her male partner use the condom for each intercourse.

Periodic abstinence (rhythm) is a favorite among some teenagers because of its "naturalness", but its effectiveness is limited. In order to establish when ovulation occurs, the female must rely on either the calendar, temperature or vaginal mucus method, each of which necessitates specialized instruction from an expert in the method (Chilman, 1983). Rhythm is particularly unreliable for teenage girls who have irregular periods, unplanned sexual activity, or uncooperative partners. Along with careful monitoring of calendar dates, daily temperatures, or the consistency of vaginal mucus, the adolescent must be prepared for lengthy periods of abstinence in order to make the method work. These constraints all contribute to method failures.

Withdrawal (coitus interruptus) has been proven effective among adult males who are able to practice control over ejaculation. For the sexually inexperienced adolescent male, the method is not considered to be reliable. However, in the absence of any preparation or supplies, this method may be practiced and, for this reason, teenagers should be informed about its limitations.

Postcoital contraception is not widely available but, for an emergency such as rape, can be useful. The procedure entails the administration of hormones or the insertion of an IUD, both of which present risks to the developing fetus if the women was already pregnant (Hunt, 1976).

Delivering the Services

Family planning or contraceptive services for adolescents may be broadly categorized as community-based or clinic-based, approaches which can and should complement each other. Community-based services include family life programs and sex education in schools, youth organizations, and clubs. Clinic-based health providers are welcome presenters in these settings for all topics related to adolescent sexuality and, especially, those dealing with pubertal changes, male and female differences related to anatomy and physiology, pregnancy, childbirth, prevention of sexually transmitted diseases, masturbation, abortion and homosexuality. Each of these was among the 25 sex education subjects most likely to be incorporated into curricula of metropolitan school districts in the United States (Sonenstein & Pittman, 1984). Involvement in these presentations allows the health care provider to discuss the availability and accessibility of both private and clinic services for contraception and deal with common concerns of adolescents surrounding physical exams, gynecological exams, and the need for parental consent for services, to name only a few.

One innovative, community-based program, Life Choices Clubs (Big Sisters of Colorado, Inc., 1983) brings small groups of young girls, ages 11-13 years, together in an after-school club environment. An established curriculum, along with activities appealing to teenagers, promotes self esteem, social skills, and decision-making skills, all in the framework of life choices. Discussions about values, friendships, growing up, body image, and career opportunities articulate with decision-making issues related to sexuality, alcohol and drugs. By putting decisions related to sexuality in the same context as those associated with other life experiences, the program encourages and assists young females to develop confidence and skill in dealing with dilemmas associated with social and sexual behaviors.

These and other community-based services are appropriate for migrant teenagers who reside in rural camps, and who may be enrolled in summer education, social, religious, or health organizations. Trained adolescent health promoters could provide valuable services to individuals or groups pertaining to dissemination of contraceptive information and over-the-counter supplies in the camps, and at both work and recreational sites. Under the supervision of clinic personnel, these health promoters could make referrals for identified problems as well as facilitate the scheduling of appointments and transportation. Bilingual, bicultural health promoters could be recruited among the migrant families or among settled-out migrants residing in nearby communities.

Clinic-based services are the most convenient for the providers but probably create the highest degree of anxiety for adolescents. For some, their only recent contact with a health care provider has been with the school nurse. Clinics and physicians' offices are associated with illness and discomfort. Only through careful publicity in the migrant schools, the camps and work places will teenagers be attracted to clinics or health centers for family planning services. The health promoter can play a large role in publicizing services, facilitating apppointments and transportation for teens with unmet contraceptive needs. If the health service includes bilingual, bicultural health providers, the adolescents' anxieties will be further alleviated.

Factors affecting adolescents' initial and continuing use of family planning services are becoming better understood. A study of utilization patterns of adolescents at family planning clinics in Pennsylvania revealed that 22 percent never returned after the initial visit. Furthermore, for those who had made two visits to the clinic, the probability of their making a third visit was considerably lower than for the first revisit. The only consistently significant correlate of regular, appropriate clinic use was the adolescents' satisfaction with their contraceptive methods (Shea, Herceg-Baron & Furstenber, 1984).

Family planning services offered in areas in the United States where adolescent needs for contraceptives were generally met were compared with areas where needs were not met, based on percentages of teenagers at risk who were served. Clinics in areas where high percentages of teenagers at risk were served appeared to be more numerous, flexible, diverse, innovative, assertive and visible than those in low-met-need areas. High-met-need area clinics were more likely to have special outreach and follow-up programs, special activities designed to recruit adolescents and to provide services without requiring parental consent or notification. These clinics were also more likely to combine family planning with other health services during the same visit, to provide free services and services without formal appointments. Overall, their record of return visits was higher than the clinics in low-met-need areas, an indication of accessibility and acceptability. In terms of community involvement, clinics in high-met-need areas were more likely to have constructive relationships with the schools and to be involved in school presentations. Posters, radio announcements and speeches comprised special efforts to recruit teens to the clinics. Asked what they liked most about the clinics, adolescents identified friendly staff, low fees, good medical care and convenient location. Most disagreeable were long waiting periods for services (Chamie et al, 1982).

These findings were in agreement with an extensive evaluation of adolescent family planning services conducted nationwide in 1976 (Urban and Rural Systems Associates, 1976). Initial interest in the clinic by adolescents was based on three conditions: publicity as to the availability of services, a guarantee of confidentiality and anonymity, and low cost. If these conditions were met, several secondary factors influenced the adolescent's decision to make the initial visit: convenient location, ease of transportation, convenient hours, minimal delay in receiving an apppointment, and ease of admission. After the initial visit, the factors which most heavily influenced revisits were the quality of interactions with clinicians and staff, the perceived confidentiality of the visit, the length of processing time, and method of fee payment. Other service attributes which appealed to teenagers were personalized treatment, explanations of the routines and procedures, protection of privacy, and a sense that quality care was being provided in an efficient manner.

While the likes and dislikes of teenagers pertaining to family planning services are very relevant for planners of migrant health services, an additional evaluation of adolescent clinic services by professional reviewers was equally revealing (Urban and Rural Systems Associates, 1976). Nationwide, they found serious gaps in patient education, patient counseling, screening for contraindications to specific contraceptives, assessment of side effects, and adherence to medical protocols. In their efforts to attract adolescent, high risk users, health care providers must also make a special effort to monitor and maintain standards of quality assurance. For those who serve a moving adolescent population, the challenge is even greater but so is the need.

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CHAPTER III

MALES AND FAMILY PLANNING

Any effort to reduce high risk pregnancies among migrant women must involve the cooperation of males. Fairly obvious, this premise is not reflected in the programs offered by either health clinics or family planning centers. Stokes (1980), in his excellent review of males' involvement in family planning efforts, labels the male, "the forgotten sexual partner". This is validated by the responses to an informal survey of Migrant Health Centers and Planned Parenthood Programs throughout the U.S. Very few of the family planning programs provide programs focused specifically on the needs of males, and, generally, the health care providers in the Migrant Health Centers do not initiate family planning discussions with males on either a program or individual basis.

The neglect of males by researchers, health providers, family planning directors and others is promoted by several assumptions, including: 1) women must assume primary responsibility for family planning because the burdens of child-bearing and child-rearing are predominantly assumed by women; 2) males, especially those of Mexican culture, desire a large family to demonstrate their virility (machismo). Recently, these assumptions and others, are coming under scrutiny by those interested in involving more males in family planning decisions which affect the health of their partners.

The Myths and The Evidence

The assumption that females must take primary responsibility for the control of contraception is a recent development. Historically, male methods of contraception have been more widely practiced than those employed by women in most countries. Diller and Hembree (1977) point out that the decline in population in Europe over the past century, and, specifically, in industrialized countries during the depression is accounted for by the use of condoms and withdrawal, methods still common in Europe. Stokes (1980) identifies the development of the pill and the IUD two decades ago as the historical point when female contraceptive methods became dominant. The pendulum may well swing back again toward a greater emphasis on male methods as couples learn more about the advantages of condoms and vasectomies, and researchers develop an effective male hormone contraceptive. The WHO study (1977, 1978, 1982) of male attitudes in Fiji, India, Iran, the Republic of Korea, and Mexico, indicated strong interest by males in family planning participation, especially in the use of the condom and contraceptive hormones, either by pill or injection.

In terms of participation in family planning decisions, males continue to have a large role in determining whether their partner will initiate a female method. In the Mexican PROFAM study (Population Council, 1979) husbands were identified as the most significant negative influence on the wife's decision, followed by physicians who were opposed to family planning, and members of the husband's family who held traditional attitudes about family size and the role of the wife. Some male disapproval and avoidance of family planning relates to a concern for the wife's health and well-being

(Population Council, 1979). Over the past decade the potential health hazards of the pill and IUD have been emphasized in the lay literature, sometimes to the point of sensationalizing isolated cases of morbidity or mortality supposedly related to use of family planning methods. The negativism and anxiety which many males express toward family planning generally could be alleviated with accurate information about specific methods. Unfortunately, providers who only focus on educating females about family planning are ignoring important "gatekeepers."

"Machismo" is another myth, perhaps an ideal perpetuated by society, which attributes to males the desire to have as many children as possible to affirm their masculinity at the expense of the physical and emotional well-being of their partners. The acceptance of this belief by both males and females across socio-economic strata was tested in the PROFAM study in Mexico (Population Council, 1979), and some of the results belied the stereotype. Among the males, 94 percent disagreed with the statement that having a large family makes a man feel more manly; only 16 percent accepted the statement that a husband who agrees not to have more than three or four children is not really a man. However, in follow-up discussion groups throughout Mexico, more autocratic attitudes were expressed by lower and middle socioeconomic group males toward their wives, including the right of the husband to "use" the wife sexually, forced compliance, and threats of extramarital sexual relations if the wife resisted the husband's dominance. Among the women surveyed, 25 percent agreed that "having a large family makes a man feel more of a man." In their group sessions, women in lower socioeconomic groups and semi-rural areas complained of physical abuse by husbands to coerce sexual compliance, excessive authoritarian behavior of husbands, and sense of fear and powerlessness when husbands threaten to desert them for failure to meet sexual demands or desire for more children (Population Council, 1979, p. 63). While many males do not want to limit the size of their families, the reasons are complex and go beyond a simple "macho" answer. The PROFAM interviews revealed male fears that the wife would be unfaithful if she used contraceptives, that control over the wife would be lost if she attained more sexual and social equality with freedom from frequent pregnancies, that other men would no longer esteem a husband whose wife was not submissive and fulfilling the traditional role. Modernization of the role of women was perceived as a major threat to the authority and self esteem of husbands in Cuba following the 1960's revolution (Fox, 1973). Shain & Jennings (1980) theorize that some males may object to female role modernization and associated reduced fertility and, by resisting these changes, indirectly encourage large family size.

An effective family planning program which encourages male involvement can draw upon the positive aspects of machismo, i.e. the male's feelings of responsibility for his wife and children, the promotion of their health and welfare. The PROFAM study indicated that many men are concerned about the health risks for their wives posed by repeated pregnancies. For their children, they desire health and positive economic futures, goals jeopardized if there are too many children to educate, provide and care for adequately (Population Council, 1979). These and other attitudes which favor family planning and acceptance of family planning need to be identified and utilized in influencing males toward positive family planning participation.

Male Methods of Contraception, the Programmatic Context

1. The Condom

According to a recent summary by the United Nations, 40 percent of contraceptive users in Denmark and Finland reported reliance on the condom; in Norway, Sweden and England, between 20 and 30 percent utilize this method. However, with the advent of the pill and IUD, the trend in England, Wales, and United States is away from the condom (United Nations, 1984). As recently as 1979, a survey in the United States by Consumer Reports indicated that users most appreciated "freedom from side effects", "peace of mind", and "ease of use". The disadvantages reported by men were interrupted lovemaking, reduced sexual sensation, a continual awareness of the condom during coitus, and the need to withdraw promptly after coitus. In terms of practical effectiveness, when the condom is used with a spermicide, it is just as effective as the IUD, diaphragm or the pill (Stokes, 1980 p. 31).

Utilization of condoms by nation is widely disparate. In Japan, the most widely employed method of family planning is the condom, as reported by four-fifths of contraceptive users. In Mexico, only 2 percent of users reported reliance on the condom. These variations can be only partially explained. Coleman (1981) examined the high rate of condom acceptance among the Japanese and attributed much of it to innovative marketing techniques and product improvements. A very thin condom, produced in a variety of shapes and colors, is available in a multitude of outlets, including door-to-door sales, vending machines, supermarkets, postal sales and pharmacies. Much of the advertising is found in women's magazines and the condoms themselves are found among feminine hygiene products in supermarkets. Other factors which promote the use of a convenient, easily understood, male method are the absence of sex education in the schools, the reluctance of females to seek gynecological care, the legal restrictions on the pill, the dearth of clinical family planning resources, and the availability of induced abortions. Unfortunately, the condom is often used alternately with the rhythm method, a combination which appears to result in a high failure rate and a concommitantly high induced abortion rate.

In Mexico, where 2 percent of contraceptive users reported utilization of the condom, an opposing set of factors appears operational. In 1976, the government of Mexico set a national priority on reducing the population growth rate to 2.5 percent by 1982 and 1.0 percent by 2000. Family planning and improvements in maternal and child health were adopted as strategies to achieve these goals. A rural health program was instituted in 10,000 communities with fewer than 2,500 inhabitants. A large thrust of the program involves the utilization of trained volunteers and midwives who promote family planning education and services, including contraceptive pills and injections, IUDs and voluntary sterilizations. Special efforts have been made to reach males for "educational promotions" in their places of work (Rowley, 1984). Unfortunately, the use of condoms is associated with extramarital sex and prostitution, a linkage which makes the Spanish word for condom, "preservativo," a vulgar term for both male and female Mexicans. In the PROFAM study (Population Council, 1979), women expressed feelings of shame and embarrassment about their partner's use of a condom; others denied any knowledge of the condom, perhaps because of its extramarital sex connotations. Twelve times as many men as women regarded the condom as their first or second contraceptive choice. Two thirds of the users reported "effectiveness" as the reason for their choice. Others mentioned lack of health hazards and simplicity. Negative male attitudes related to the condom were primarily focused on the loss of sensation caused by the condom.

In the U.S.-Mexico Border Study (1979), of the Mexican American women who were current contraceptive users, 11 percent reported relying on the condom for contraception. This proportion was fairly constant across age groups, while for educational level, there were more condom users in the group having 12 or more years of schooling (16.3 percent) than those who had 0-7 years (7.3 percent) or 8-11 years (6.6 percent). Use of condoms generally fell third, behind the pill (31.9 percent) and female sterilization (19.3 percent), but about the same as IUDs (11.3 percent). These rankings and percentages were similar to the currently married Anglo women who were interviewed as part of the same survey.

Because condoms have proven to be effective and inexpensive, publicity related to their use should be included in every family planning program. Furthermore, the most cost-effective programs are not clinic-based, especially since the use of condoms does not necessitate a prescription, medical checkup, or consultation with a highly trained health provider. Possibilities for the community-based distribution of condoms are only as limited as one's imagination. Stokes (1980) and Sherris (1982) review a few that have been successful, including sending male health educators on motorcycles to workplaces, bars, poolrooms, street corners and gas stations, a method which succeeded in reducing out-of-wedlock pregnancies in South Carolina. India and Sri Lanka increased condom use by promoting colorful packaging and extensive advertising. In migrant areas, a subsidized condom distribution program could bring condoms into migrant camps, community grocery stores, gas stations, discos, pool halls and newsstands. Volunteers who are settled-out migrants could be recruited from the community and educated to provide family planning information and condoms in the migrant camps and fields. Discussion groups for males have proven to be an important vehicle for the distribution of condoms as well as providing information about sexuality and promoting more positive attitudes toward family planning. The importance of educating young male teenagers cannot be emphasized enough in terms of promoting responsible sexual behavior. The distribution of condoms is only one aspect of a holistic program which strives to educate, motivate, and promote positive family planning attitudes.

2. Vasectomy

One of the safest, most effective means of contraception is vasectomy, a method currently employed by over 30 million couples worldwide (Liskin 1983). The highest numbers of couples relying on vasectomy are found predominantly in India, China, United States, and United Kingdom; the highest percentages of couples using vasectomy are found in India, China, United States, United Kingdom, Canada and Netherlands, each country with 7 percent or more of total couples of reproductive age. Dramatic increases were experienced in the 1970s in both developed and developing countries through aggressive programming coupled with negative publicity related to side effects of the pill and IUD. These same countries are now reporting a gradual decline. In the United States, about 300,000 vasectomies were performed in 1982, less than half the number reported in 1971 (Liskin, 1983; AVS News, Feb. 1984).

In Latin America, vasectomy is relatively rare, with female sterilizations outnumbering vasectomy by a ratio of about 14:1 (Santiso G., Bertrand & Pineda, 1983). In Mexico it was estimated in 1976 that only one percent of contraceptors utilized vasectomy for family planning (United Nations, 1984,). More recent statistics are not available from Mexico, specific to male sterilization. Nevertheless, Mexican Americans residing in the United States along the border reported a higher incidence of vasectomies in 1979 (Smith, Warren & Nunez, 1983). Interviews with married women of reproductive age indicated that 6.3 percent relied on vasectomy for contraception, a relatively higher percentage than reported in Mexico.

The overall decline in vasectomy worldwide and its low incidence in some broad geographical areas such as Latin America can be attributed to several factors. Foremost are: 1) the biases of program administrators and health care providers and 2) the sociocultural, religious beliefs and attitudes of the population. Many advances have been achieved in female sterilizations since the early 1970s, including minilaparotomy and laparoscopy, both being relatively simple, easy procedures which have reduced the cost and risk of female sterilizations. Given the choice of performing a sterilization procedure on a women at risk or doing vasectomy, more physicians involved in family planning programs would elect to sterilize the female. Some of this bias is related to the suspected health risks associated with vasectomy previously publicized following studies on monkeys and mice. A small number of vasectomized rhesus monkeys demonstrated a higher incidence of atherosclerosis than controls (Clarkson & Alexander, 1980). Another study noted a relationship between sperm antibodies and a higher incidence of benign and malignant tumors in a group of vasectomized mice (Anderson et al, 1983). Sperm antibodies and an adverse antibody response were hypothesized to lead to autoimmune disease. However, extensive follow-up studies on vasectomized humans have failed to document any of these health problems. Smith at al. (1985) reviewed all published case series data related to male and female sterilization procedures in the United States. They concluded that male sterilization procedures were found to have zero attributable deaths and significantly less major complications when compared to female sterilization procedures. They noted no association between sexual dysfunction, arteriosclerotic cardiovascular disease, or immunological disease and vasectomy. The overall conclusion of this and other studies, focused on the mental and physical health of vasectomized men, is that there is little or no long-term risk.

Religious and cultural values and beliefs may hinder the acceptance of vasectomy in a given population. In one Mexican community, women expressed the fear that their husbands would stop being men following a vasectomy (Shedlin & Hollerbach, 1981). Many men erroneously equate vasectomy with castration, fearing both impotence and lack of ejaculation following the procedure. For others, the irreversibility of vasectomy is a factor which is unacceptable, given the possibility of death of the wife and remarriage or divorce. Programs with careful planning, education and counseling have demonstrated that barriers related to misconceptions and apprehensions can be overcome. In Guatemala, a very successful sterilization program for both men and women was initiated by a private family planning association. Between 1978 and 1982, 5,345 vasectomies were performed (Lakin, 1983,). A followup study of 500 males indicated that the great majority were Catholic, their wives were in favor of the operation, and they had used some type of contraception prior to the operation, predominantly the pill. Over 97 percent were satisfied with the operation and reported that their state of health, ability to do physical labor, and satisfaction with sexual relations were either the same as or better than before the procedure (Santiso G., Bertrand, & Pineda, 1983).

The First International Conference on Vasectomy was held in Sri Lanka in 1982 to examine vasectomy efforts and barriers over the last two decades and arrive at recommendations for increasing its utilization. The major findings of this conference, reported by Atkins and Jezowski (1983), were:

1. Vasectomy is one of the safest and most effective methods of contraception and is even safer and more widely deliverable than female methods of surgical contraception.

2. Men in every part of the world, and in every cultural, religious, or socioeconomic setting, have demonstrated interest in or acceptance of vasectomy, despite commonly held assumptions about male attitudes or societal prohibitions.

3. The greatest hindrances to increased acceptance of vasectomy appear to be the lack of services in appropriate settings, the reluctance of programs to initiate services, and the lack of specific information about what vasectomy is and is not.

4. The most important factor in an individual's decision to request vasectomy appears to be having had personal contact and a conversation with a man who has had a vasectomy and is satisfied with the procedure.

The recommendations of the Sri Lanka conference are summarized as follows from Atkins and Jerowski (1983):

1. Programs should be initiated to increase the knowledge and awareness of vasectomy among all levels of health and family planning personnel with attention to clarification of values and beliefs of providers.

2. The mass media and commercial channels should be utilized to educate the public about vasectomy, providing accurate information and desensitizing the public so that vasectomy is an acceptable topic of conversation.

3. Satisfied users should be incorporated into education and counseling programs.

4. Education and service efforts should be based on studies of men's needs and attitudes toward vasectomy in a given area, with special consideration of existing barriers.

5. Creative, quality programming is essential to provide a service which is humanistic, comfortable, male-oriented, and incorporates preoperative screening, counseling, expert surgical care, and postoperative patient follow-up.

6. Physicians should be motivated, encouraged and reimbursed sufficiently to that they want to include vasectomy in their health delivery practice.

The Sri Lanka conference identified characteristics of successful vasectomy programs (Atkins and Jezowski, 1983), specifically: strong leadership, male focused program design, special attention to the psychological needs of men, appropriate training strategies, community-based orientation, multiple communications methods, and thorough counseling for the clients. The negative bias of health planners and administrators in not promoting vasectomy was identified as the primary cause for waning public interest in the procedure.

At least one program in the United States has successfully focused on low income persons of Mexican culture. Privately funded, the Arizona Outreach Project sought to provide access to family planning services for the Spanish-speaking population of Maricopa County, individuals who were "more representative of life in the developing world than in the U.S." (AVS News, May 1984). Client access problems included: poverty, language difficulties, and lack of transportation, telephone, and child-care services. The program provided subsidized family planning services, including sterilizations; transportation; bilingual outreach workers who conducted education sessions in homes, schools, neighborhood meeting places, and work places, and acted as advocates and translators. During the nine month period, 600 persons received family planning information individually or in group settings. Eighty-nine sought referrals for voluntary sterilization resulting in 21 vasectomies and 27 tubal ligations and the scheduling of 41 more procedures (Jorgensen, 1984). Of those 48 whose sterilizations were completed, 94 percent stated that they were "extremely satisfied." Success of the program was attributed to the staff's concern for the individual person and his/her individual circumstances as well as the removal of "system barriers" to access.

A vasectomy program developed for Mexican culture, migrant males would incorporate all the components known to be essential to programs in developing countries: information and education campaigns, including the media and bilingual outreach workers who would contact men and their wives in the migrant camps and work places; the opportunity for men who are considering vasectomy to discuss the procedure with a vasectomized man; clinics designed for men or special hours set aside specifically for men; provision of counseling and surgical services by bilingual providers who are committed to vasectomies and serving the family planning needs of males; incentives or compensation payments; subsidies to offset the expense of the procedure; removal of any existing barriers to accessing services, such as transportation, excessive clinic appointments prior to the procedure, down payments. While attention to these and other cultural and program comsiderations will not ensure the success of a vasectomy effort, without them there can be little hope for success.

3. Withdrawal, the Traditional Male Method

The first successful method of contraception used by man, withdrawal, is mentioned in both the Old Testament (Genesis 38.8-10) and the Koran. While the Jews disapproved of the practice, Mohammed took a more liberal attitude and announced the practice to be an effective means of preventing pregnancy (Potts & Diggory, 1983). In the 20th Century, withdrawal continues to be depreciated but its critics are found primarily among family planning providers who are critical of its effectiveness. Despite this lack of official promotion, withdrawal is still commonly used as a primary means of contraception in several Western and Eastern European countries, many of which have predominantly Catholic populations. Recent surveys summarized by the United Nations (1984) reveal the following percentages of total current contraceptive users relying on withdrawal: Italy, 46 percent; Portugal, 39 percent; Spain, 44 percent; France, 29 percent; Yugoslavia, 65 percent. Utilization rates are lower in Mexico (12 percent) and in other Central and South American countries. The U.S.-Mexico Border Survey (Smith, Warren & Nunez, 1979) indicated that only 7.6 percent of married Mexican American women relied on withdrawal compared with less than 1.0 percent of the married Anglo women in the same area.

Among family planning professionals, withdrawal is not a recommended method because of its reported unreliability. Presumably, the preejaculatory loss of fluid from the penis may contain sperm and result in conception. This hypothesis has yet to be proven empirically, according to Potts and Diggory (1983). They are critical of the neglect of withdrawal as a contraceptive practice and cite several studies which conclude similar failure rates for withdrawal, condoms and diaphragms. In terms of expense or side effects, withdrawal cannot be equalled as a contraceptive. No deaths have been attributed to its practice. Modern users may complain that withdrawal reduces the sexual pleasure of both sexual partners. Certainly more reliable, less coitally disruptive methods now exist for those who want them. Individuals or couples who successfully rely on withdrawal can be supported in their decision, especially if no other method would be acceptable. However, those who use the method need to know that other methods are available when and if a reliance on withdrawal is no longer desired or acceptable in terms of the pregnancy risk.

4. Hormones and Gossypol, the Experimental Methods

Productive research focused on the suppression of sperm production in males has been slow to materialize. From a practical standpoint, it is theoretically easier to suppress the release of one egg per month in the female than to suppress the ongoing production of millions of spermatozoa in the male. However, investigations related to two separate chemicals deserve mention: 1) LHRH (luteinizing hormone-releasing hormone) and 2) gossypol, a cottonseed oil derivative presently being tested in the People's Republic of China.

LHRH is a hormone released by the hypothalamus which regulates the pituitary gland's production of the follicle-stimulating hormone (FSH) and the luteinizing hormone (LH). These two hormones stimulate the production of testosterone and sperm. Curiously, very large doses of LHRH have the opposite effect on the pituitary: overstimulation reduces the production of FSH and LH and concomittently reduces production of sperm and testosterone. Unfortunately, reduction of testosterone also decreases the sex drive in the male, a side effect which would probably reduce its popularity as a male contraceptive. While research continues, studies indicate that males are interested in a reversible contraceptive and would be willing to try an acceptable pill or injection (United Nations, 1982; Gough 1979).

Gossypol's antifertility property was noted by the Chinese in the late 1950s after a strange malady called "burning fever", accompanied with fatigue and reduced fertility appeared in rural villages in eastern China. The villagers traditionally cooked only with cottonseed oil which had undergone a boiling process but had gradually changed over to a cold-pressing method. Investigation revealed that boiling had inactivated gossypol, the phenolic compound found in cotton plant seeds, leaves and roots. The cold-pressed oil contained active gossypol and, in large amounts, could cause toxic symptoms ranging from transient weakness to neuritis and paralysis, along with infertility in males (Liu & Frick, 1984; Lawrence, 1981).

The Chinese initiated an aggressive research program to assess the mechanism of action, safety, reliability and effectiveness of gossypol as a male contraceptive. While studies in the United States are still confined to animals, the Chinese have accumulated longitudinal data on over 10,000 males with documentation of suppressed fertility and only minimal side effects. According to the Chinese reports, gossypol does not reduce testosterone levels which implies that male users would not experience reduced sex drive or sexual performance. Furthermore, the contraceptive effects are reversible when the maintenance dose of gossypol is discontinued. Major concerns in the United States relate to the toxicity of the drug and the lack of understanding of the drug's mechanism of action. A thrust now underway in the United States is to develop an analogue to gossypol which would retain the antifertility attributes but eliminate the toxicity (Lawrence, 1981). In any event, the approval of either a hormone pill or gossypol pill for males is a long way off in the United States.

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APPENDIX A

FAMILY PLANNING HISTORIES

These interviews were completed by Maria Visse and Priscilla Ramirez-Flores in North Central Colorado during the summers of 1984 and 1985.

LYDIA'S HISTORY

Lydia is 46 years old and married. She has ten children, five by her first husband and five by her present husband. She was born and raised in Eagle Pass, Texas, in a family of four girls and two boys. As the youngest child she was admittedly spoiled, never having to help with the housework or preparation of meals. At age 13 years, two years after onset of menarche, she married her first husband without ever having discussed menstruation, sex or reproduction with family or friends. They had met while working in the fields "up north" and had begun living together in his parents' home after returning to Texas. "When I married I thought I would just fix his meals. How dumb I was." On her wedding night she was surprised to find that marriage involved sexual intimacy. Without any understanding of labor or delivery, she delivered her first baby at home a year later, the first of three home deliveries by a midwife and all without prenatal care.

Her early years of marriage were a difficult period of adjustment. "It was very hard living with his family. I never did anything at home and now I was supposed to do everything. I felt I was a servant. His mother was always telling me what to do and he never said anything to her to defend me." In addition to her responsibilities for cooking, housekeeping and child rearing, she was also expected to work fulltime in the fields. Her first marriage lasted fifteen years and produced five children.

Lydia remarried when she was 29 years old and had five more children, all with prenatal care, and delivered in U.S. hospitals. She reports that pregnancy was always an embarrassment for her. "What are people saying about me...Here I am pregnant again." She felt it was "bad" to be always pregnant and wanted to limit her childbearing but felt she had no one to talk to, nor could she bring herself to ask questions. The first time that anyone in the health services mentioned family planning was prenatally while she was pregnant with her tenth and last child. Shortly before the delivery, Lydia developed swollen face, hands, and legs. The doctor talked to her about the possibility of a tubal ligation after the delivery and she was relieved because she knew that she didn't want any more children. "He was the first person to tell me that I didn't have to have so many children. Nobody had ever talked to me about this before." Her philosophy, and that of her husband, had been "to have as many children as God sends us." But given an explanation of the health risks by a physician, her husband was supportive of her decision to terminate childbearing. At age 35, she was finally able to have sexual relations without fear of pregnacy for the first time in 22 years. She wonders why the health care providers had not told her about family planning earlier, even though she was "too shy" to ask.

Lydia reports that she can now talk with her daughters about childbearing and family planning. She asks her youngest daughter, age 15 years, what she is learning in school about sexuality and initiates discussions with her. Her message to all her daughters is to learn about family planning and not have so many children. Religion is not an obstacle for her beliefs. "We are Catholic and go to church, but just now and then."

Earlier this year, at age 45 years, Lydia was diagnosed as diabetic, an inherited disposition from both her mother's and father's families. She also suffered a slight paralysis of one side of her face shortly after arrival in Colorado this summer and has not returned to work in the fields. Her menstrual period was heavier last month, a symptom which she attributes to the Prednisone prescribed for her paralysis. She has received nutritional counseling from the migrant health center nutritionist and says she will see her doctor in Eagle Pass on their return to Texas. Her health is a concern to both her and her husband but she admits that, "there are just so many things I don't understand."

ISABEL'S HISTORY

Isabel is 45 years old, born and raised in rural Mexico but has lived in Texas for the past 15 years. She speaks Spanish but can understand some English. She has 12 living children: 8 boys and 4 girls, the youngest is 4 years old. Five children are married; 7 live at home. Isabel's history also includes two spontaneous abortions, one at 3 months and one at 6 months, and a neonatal death at 8 days. She was married at age 15 to a young man ten years older than herself. Her first pregnancy terminated with a spontaneous abortion. Several of her subsequent pregnancies were spaced less than 24 months apart. While living in Mexico prior to 1968, her deliveries were all at home with a midwife in attendance.

In 1964, after the birth of her fourth child, she developed an umbilical hernia which caused her some discomfort, especially with pregnancy. Upon complaining to her husband, Tomas, he replied, "You knew when you married that you would have babies; if you don't want more babies you better just get a divorce." Her last pregnancy at age 41 was dificult because of the increasingly severe complications related to the hernia. The attending physician had advised a therapeutic abortion but this was unacceptable to both Isabel and Tomas. She spent the last three months of the pregnancy in the hospital before finally delivering a healthy boy. They have no hopes of ever being able to pay the resulting hospital bill.

Following the delivery, Tomas accepted the need for contraception but when the couple were offered the choice of an IUD or a tual ligation, Tomas refused to consider the latter giving no explanation for his resistance. He has never accompanied his wife on her clinic visits to participate in her discussions with the health care providers, and has little understanding of contraception or the health risks associated with further pregnancies. Isabel reports that she would have accepted family planning at the time her unbilical hernia was first diagnosed in 1968 but her husband was steadfast in his refusal to consider the idea. When Isabel's married children began having children, she had feelings of "shame" and concern that she would be pregnant at the same time as the daughters or daughters-in-law. She expressed this to Tomas and when the children made remarks in their presence, her husband told her just not to pay any attention to them.

Although Tomas agreed to the insertion of the IUD, Isabel perceives an element of tension in their relationship which she associates with the introduction of contraception. She has had no physical problems with the IUD and plans to continue its use for as long as possible or necessary. Isabel attends the Catholic church and sees no conflict between her religion and use of the IUD. She views her practice of family planning as a means of protecting her health and not a religious issue. She discusses family planning with her unmarried teenagers and married sons and daughters-in-law. All of her married children and her sister are currently using some method of contraception obtained in either Texas or Mexico.

Continuing to recognize her own health needs, Isabel requested an evaluation of her hernia at the migrant health center in Colorado in 1985. Three years ago, physicians at her home base had estimated that the procedure and hospitalization would cost around $2000 but that the bill could be paid in installments. For a family with a combined annual income of only $4000 and a previous unpaid hospital bill of over $5000, the "installment plan" was out of the question. Instead, Isabel had fashioned a home-made girdle strap to attempt to support her hernia. The surgery was finally performed this summer with the benefit of migrant health funds and Isabel could return to a more healthy, productive life as mother, wife and migrant laborer.

CONSUELO'S HISTORY

Consuelo is 39 years old, married and a first generation U.S. citizen having been born in one of the Texas border towns of Mexican parentage. She is the fourth of seven sisters and misses not having had a brother in her family. When she and her husband married 18 years ago, they promised each other that they would provide a better life for their children than they had experienced growing up. In the winter Consuelo works part-time as a seamstress while her husband is employed in agriculture. In May they drive to Colorado to work in the vegetable fields north of Denver with their three daughters and two sons. Daniel is the oldest and, at age 16, works in the fields with his father. The girls, ages 14, 11, and 8 will attend the summer migrant school for eight weeks and then join their parents and brother in the fields or baby-sit their two year old brother. Consuelo reports that she had not wanted more children but the other children wanted a second boy. The center of attention, cute little Tommy fulfilled the wishes of the rest of the family.

Consuelo says that the ideal family size is three children because of the expense to educate, feed, clothe, and provide for all the family needs. She now considers her family complete and does not want to become pregnant again. From a pharmacy in Mexico she gets her monthly supply of contraceptive pills fairly inexpensively. The doctor at the clinic in Eagle Pass told her that the pill is safe for her to use as long as she does not smoke nor have blood vessel disease. However, from what she has read she continues to have some concerns about taking the pill. She is most interested in a permanent method of contraception and her husband would support her in her decision to have a sterilization procedure. They have had difficulty getting any information as to the expense, the surgery involved, the health implications, the risks involved, etc. Someone in Eagle Pass told Consuelo that she would be required to have one more pregnancy before she could have this operation. This concerns her because another pregnancy is precisely what she is trying to prevent.

Because of the need to generate family income while there is work in the fields, Consuelo has not taken the time off to go to the local migrant health clinic. The migrant camp has no telephone; the closest store is five miles away down a dirt road. She knows that she can be seen at the clinic during scheduled hours. The expense of a tubal ligation is her major concern. Without accurate information it will not be possible for her and her husband to make this important health decision.

CELESTINA'S HISTORY

Celestina is a friendly woman in her early 40's who appears 10 years older. She completed two years of school in Mexico and speaks only Spanish. She and her husband have been married for 28 years and have 12 children ranging in ages from 3 to 27 years. Childbearing began soon after her marriage at age 15. Most of her pregnancies were unplanned. Both she and her husband were in agreement that "children are the will of God." They expressed their belief that God gives to each couple the number of children they can adequately care for. At this point, Celestina admits that she does not want another pregnancy. However, neither she nor her husband are using any method of family planning. They report that they have never been offered any information by health care providers about family planning, its benefits, importance, cost, action, effectiveness, side effects, or risks which would help them decide what they should do about either spacing or terminating childbearing. Although Celestina is still menstruating, she thinks it is "too late" for them to have more children but this has never been discussed or explained by a nurse or physician.

Her family is Celestina's life as she cares for their needs from before sunrise to after sunset. She arises at 4 AM to prepare breakfasts for those going to the fields as well as lunches which must be packed carefully into the truck. In the evening, before considering her own fatigue, she must prepare dinner for her husband and ten children who have accompanied them in their migration northward. She speaks with pride of her two oldest children, a son and daughter, who have been married for three and five years respectively. Each couple has only one child because they "se estan cuidando" or "are taking care" by using contraception. Celestina says that she and her husband want small families for their children. How this fits with God's plan was not explored. Later they both attended an educational meeting on family planning held at the migrant camp. They actively participated in the informal group discussion which followed a slide presentation on different methods of family planning. At the end of the evening everyone in the group was aware of the family planning services available at the nearest migrant health center. A small seed had been sown.

YOLANDA'S HISTORY

Yolanda is 20 years old, unmarried, and migrates annually to Colorado from the Texas border with her mother, three brothers and a sister. Her mother is separated from her husband but migrates with her sister, who is also separated, and her sister's 18 year old son. Yolanda has a little daughter named Regina who is 17 months old, and she was eight months pregnant with her second child when first interviewed by the family planning promoter this summer. Although a midwife delivered Regina in Texas, Yolanda has attended prenatal clinics in both Texas and Colorado and planned to deliver in a hospital in Colorado. She has had no contact with Regina's father. He was only 22 years old and "they said" he had a family in Mexico. As soon as he learned that Yolanda was pregnant he left her.

During the interview, Yolanda smiled a lot but found it difficult to respond to most of the questions. She has had six years of education and speaks only Spanish. She does not think that her family was upset with the news of her pregnancies. Although an early dropout from school, she contributes to the family income by doing maid work in the winter in Texas and migrant farm labor in the summer. She prefers to work in the fields, enjoying the comparatively cool weather in Colorado and other upstream states in the summer.

After the birth of Regina, Yolanda went to the clinic for postnatal care. She was told about birth control pills but declined them because "I didn't think I would have another child." She then met a 28 year old man named Rodriquez who told her not to take the pills because he wanted her to be pregnant. She did, indeed, become pregnant and Rodriquez suggested that they live together. However, her mother disapproved of him because he drank and smoked marijuana; Yolanda was told not to see him anymore. "I cried a lot at first but time goes by."

Before her delivery this summer, Yolanda said she was ready to "try the pill." She said that she listened to what her friends said but she was too shy to talk much or ask questions. She watched a slide show on family planning at the clinic. Essentially monolingual, she is able to read some magazines and "stories" in Spanish but not the information in English given to her in the clinics. Although Catholic, she goes to church only occasionally and views her religion as no obstacle to family planning.

Yolanda delivered a healthy boy in Colorado after receiving prenatal care at the migrant health center. Following the delivery at a local hospital, she reported that she wanted no more children but that there was "no need" to use family planning. She is mildly interested in an IUD but doesn't know whether she will ask the doctor about this when she has her postpartum examination. Furthermore, she says she may not go back for an examination because the family truck is not working very well. She was told that transportation was available to bring her in to the migrant health center on the day of her appointment. She then reported that the family might be leaving Colorado because of the weather and lack of work. With two children to take care, she closed the interview with the excuse that she had a lot to do.

MARTY'S HISTORY

Marty is 17 years old, an unmarried high school student and four months pregnant. She and her family are from Albuquerque, New Mexico, and are living in a migrant camp north of Denver this summer. Her family consists of her parents and a 13 year old brother. Together they work in the vegetable fields from sunrise to sunset.

The father of Marty's baby, Paul, is a 17 year old whom she met at high school in New Mexico when they were in the tenth grade. During that year they were with the same group of teenagers and were friendly without any sexual involvement. Sharing similar interests, they got to know and enjoy each other as "friends". In the 11th grade they began to develop a "special relationship" and spent more time together. Marty says that she didn't think about the possibility of becoming pregnant, even though she had taken sex education classes and passed all the exams. "The classes didn't seem to have anything to do with me." She never thought about using any means of contraception. While with her boyfriend, the information from the sex education classes "just didn't enter my mind".

In March 1985, she missed her period and then began to worry about the possibility of pregnancy. On occasion, she had talked with friends at school who were pregnant. They were now able to confirm some of her symptoms as similar to those they had experienced when they first became pregnant. She shared her suspicions with Paul but withheld any information from her family. When she was ten years old her mother had discussed menstruation with her, preparing her for the onset of this normal event without fear. They had never discussed sexual relations and their association with pregnancy. Marty did not know how to tell her mother about her missed period.

As her pregnancy advanced, Marty became more irritable with her friends and Paul. Her relationship with Paul changed. "He always told his mother what a good time we had together - now he told her that I was 'grumpy' and sometimes I hung up on him when we were talking on the telephone." His mother, in jest, said to him, "Don't tell me that Marty is pregnant." He replied that he thought she was. Paul's mother called Marty's mother and suggested that the parents get together with the young couple to discuss future plans.

The response of Marty's parents to the news of the pregnancy was anger and frustration. They had been proud of their daughter's high school achievement, her participation in the honors program. They had hoped that she would graduate from high school and then continue her studies or get a good job which would provide a steady income. She would be the first in the family to break out of the pattern of migrant farm labor. This was the future Marty had also planned for herself. She had looked forward to employment, a new car, and an independent life style.

At the meeting between the parents and their children, they decided that Marty and Paul would continue to live with their own parents and continue on with high school. The parents would provide financial support for the delivery and care of the baby. Marriage was not suggested as a prospect at this time. After the end of the school term in May, Marty and her family came to Colorado to work in the fields. In the fall, she considered transferring to a different school in Albuquerque with a special program for pregnant and new mothers with facilities for child care at the school. She has now decided to continue on at the same school she has been attending. She thinks her friends are used to seeing pregnant students and that she won't be very different.

She has been thinking about the topics which were covered in the sex education classes, and especially the film on childbirth. Paul says he wants to be involved in her preparation for the baby and also wants to be with her during the delivery. After the birth, Marty plans to initiate some kind of contraception, again remembering what was taught in the sex education classes. She plans to finish high school and get a job, unlike Paul's cousin who dropped out of school to have a baby at age 14 and another at age 16. This situation made a strong impression on Marty and she says that she doesn't want this to happen to her.

Marty admits to being "scared" at times. She thinks about her relationship with Paul and wonders if it will change or continue to develop. She hasn't seen him for eight weeks although they have had a few telephone conversations. "He asks a lot of questions about how I feel and asks if I look 'fat'." She worries about the baby, hoping that it will be healthy, fearing there will be problems before or during the delivery, and how all this will change the plans she had made with regard to her future work and life style. She appreciates the support of her parents and Paul's mother and says that she thinks things will be "all right". In the meantime, she is in excellent health, continues working in the fields, and receives prenatal care at the migrant health clinic. She says religion has not influenced any of the decisions she has made about the pregnancy and future plans for family planning.

APPENDIX B

MODEL FAMILY PLANNING PROJECT FOR WOMEN AT RISK

A. Planning Phase

1. Establish a planning committee comprised of health care providers and consumers who are migrants or seasonal farmworkers.

2. Identify the target population at risk in terms of age, sex, and parity, e.g. women age 35 years and over, women who have had one or more closely spaced pregnancies, and women who have had four or more births.

3. Formulate goals, objectives and indicators. The following goals are examples:

   a. Increase the knowledge of migrant women at risk and their male partners about methods of family planning.
   b. Increase the number of migrant women at risk and their male partners who are new acceptors of family planning.
   c. Increase the number of migrant women at risk and their male partners who are known, continuing users of family planning.

4. Develop project strategies and approaches which will promote the goals and objectives of the project, based on the needs of the tartget population.

5. Identify facilitators related to service accessibility, acceptability, and utilization, such as:

   a. Reduced charges.
   b. Transportation.
   c. Convenient clinic hours.
   d. Culturally sensitive staff and service providers.

6. Develop an inservice education program for all professional health care providers involved in the project for the purpose of improving and expanding family planning services. Based on the needs of the health care providers, the curriculum would include:

   a. Current family planning principles and methods.
   b. Psychosocial factors related to family planning motivation and acceptance.
   c. Culture, life-style, and demographics related to the migrant population.

7. Develop a recruitment and training program for community health workers for the purpose of increasing their knowledge and skills related to family planning.

a. Identify criteria for selection of applicants.
b. Identify training components, e.g. family planning principles, methods, motivation, misconceptions.
c. Formulate curriculum and course outline.

8. Develop a budget which includes funding for project health care providers, community health workers, family planning methods, supplies, educational materials, patient transportation, etc.

9. Establish cooperative and collaborative agreements with other appropriate community organizations and services, such as:

a. Community physicians.
b. Community clinic hospitals.
c. Planned Parenthood clinics.
d. Local and State Family Planning Programs.

10. Develop a communication system which will facilitate the transfer of information to and from patients, community health workers and professional health care providers, to include:

a. Regular meetings of service providers and community health workers.
b. Portable health records carried by patients.
c. Follow-up home visits by community health workers.
d. Forwarding patient records to upstream and downstream health service providers.

B. Implemenation Phase

1. Educate health care providers.

2. Train community health workers.

3. Identify migrant women at risk who are eligible for participation in the project by such means are:

a. Screening of migrant camp residents by community health workers.
b. Screening of migrant women upon admission to the migrant health clinic.
c. Screening of migrant women during postpartum period.
d. Screening of migrant women by the professional health care providers.

4. Establish baseline of patient knowledge, practice and interest in family planning methods with an abbreviated KAP (knowledge, attitudes, practices) questionnaire. Administer to women at risk and their male partners.

5. Promote patient participation in community-based educational activities in individual, family, and group settings in the home, community or clinic, for the purpose of increasing knowledge and acceptance of family planning methods.

6. Provide full family planning clinic services to women at risk and their male partners, including counseling, distribution of prescription and nonprescription contraceptives, insertion of IUDs, and performance of tubal ligations and vasectomies.

7. Follow-up of new acceptors and continuing users of family planning to identify and alleviate problems related to family planning.

C. Evaluation Phase

1. Conduct follow-up asessment of patient knowledge and practices related to family planning using abbreviated KAP questionnaire prior to departure of migrants from the area.

2. Measure the effectiveness of the project by comparing pre and post-intervention knowledge, attitudes, and practices of women at risk and their male partners.

3. Survey health care providers and community health workers for their perceptions of project success, shortcomings, and obstacles.

4. Revise overall strategies and related activities as necessary to improve project outcomes.

APPENDIX C

METHODS OF CONTRACEPTION

Source: "Contraception: Comparing the Options,"
U.S. Government Printing Office: 1982-0-388-457

The Pill

Prescription Required

"The Pill" refers to any of the oral contraceptives. The most widely used contains two female hormones, estrogen and progestin, and is taken 21 days each month. Another (sometimes called the "mini-pill") contains progestin only and is taken continuously. A woman should be sure to receive from the druggist, doctor, or person who gives her the pills an FDA-required brochure that explains the use, benefits, and risks of the product in greater detail.

Effectiveness

Effectiveness depends on how correctly the method is used.

Of 100 women who use the combination estrogen and progestin pill for one year, less than 1 will become pregnant. Of 100 women who use the progestin-only pill (mini-pill) for one year, 2 to 3 will become pregnant.

Advantages—Disadvantages

Advantages:
The combination pill is the most effective of the popular methods for preventing pregnancy.

No inconvenient devices to bother with at time of intercourse.

Disadvantages:
Must be taken regularly and exactly as instructed by the prescribing physician.

Side Effects:

Side effects may include tender breasts, nausea or vomiting, gain or loss of weight, unexpected vaginal bleeding, higher levels of sugar and fat in the blood.

Although it happens infrequently, use of The Pill can cause blood clots (in the legs, and less frequently in the lungs, brain, and heart). A clot that reaches the lungs or forms in the brain or heart can be fatal. Pill users have a greater risk of heart attack and stroke than non-users. This risk increases with age and is greater if the Pill user smokes.

Some Pill users tend to develop high blood pressure, but it usually is mild and may be reversed by discontinuing use.

Pill users have a greater risk than non-users of having gallbladder disease requiring surgery.

There is no substantial evidence that taking The Pill increases the risk of cancer. Rarely, benign liver tumors occur in women on The Pill. Sometimes they rupture, causing fatal hemorrhage.

Health Factors to Consider

Women who use The Pill are strongly advised not to smoke because smoking increases the risk of heart attack or stroke.

Other women who should not take The Pill are those who have had a heart attack, stroke, angina pectoris, blood clots, cancer of the breast or uterus. Women who have scanty or irregular periods should be encouraged to use some other method.

A woman who believes she may be pregnant should not take The Pill because it increases the risk of defect in the fetus.

Health problems, such as migraine headaches, mental depression, fibroids of the uterus, heart or kidney disease, asthma, high blood pressure, diabetes, or epilepsy may be made worse by use of The Pill.

Risks associated with The Pill increase with age.

Long-Term Effect on Ability to Have Children

There is no evidence that using The Pill will prevent a woman from becoming pregnant after she stops taking it, although there may be a delay before she is able to become pregnant. Women should wait a short time after stopping The Pill before becoming pregnant. During this time another method of contraception should be used.

After childbirth the woman should consult her doctor before resuming use of The Pill. This is especially true for nursing mothers because the drugs in The Pill appear in the milk and the long-range effect on the infant is not known.

Intrauterine Device (IUD)

Prescription Required

The IUD is a small plastic or metal device that is placed in the uterus (womb) through the cervical canal (opening into the uterus). As long as the IUD stays in place pregnancy is prevented. How the IUD prevents pregnancy is not completely understood. IUD's seem to interfere in some manner with implantation of the fertilized egg in the wall of the uterus. There are 5 kinds of IUD's currently available—Copper-7, Copper-T, Progestasert, Lippes Loop, and Saf-T-Coil. IUD's containing copper (Copper-7 and Copper-T) should be replaced every 3 years; those containing progesterone (Progestasert) should be replaced every year.

Effectiveness

Effectiveness depends on proper insertion by the physician and whether the IUD remains in place.

Of 100 women who use an IUD for one year, 1 to 6 will become pregnant.

Advantages—Disadvantages

Advantages:
Insertion by a physician, then no further care needed, except to see that the IUD remains in place (the user can check it herself but should be checked once a year by her doctor).

Disadvantages:
May cause pain or discomfort when inserted; afterward may cause cramps and a heavier menstrual flow. Some women will experience adverse effects that require removal of the IUD.

The IUD can be expelled, sometimes without the woman being aware of it, leaving her unprotected.

Side Effects

Major complications, which are infrequent, include anemia, pregnancy outside the uterus, pelvic infection, perforation of the uterus or cervix, and septic abortion.

A woman with heavy or irregular bleeding while using an IUD should consult her physician. Removal of the IUD may be necessary to prevent anemia.

Women susceptible to pelvic infection are more prone to infection when using an IUD.

Serious complications can occur if a woman becomes pregnant while using an IUD. Though rare, cases of blood poisoning, miscarriage, and even death have been reported. An IUD user who believes she may be pregnant should consult her doctor immediately. If pregnancy is confirmed, the IUD should be removed.

Although it rarely happens, the IUD can pierce the wall of the uterus when it is being inserted. Surgery is required to remove it.

Health Factors to Consider

Before having an IUD inserted, a woman should tell her doctor if she has had any of the following: cancer or other abnormalities of the uterus or cervix; bleeding between periods or heavy menstrual flow; infection of the uterus, cervix, or pelvis (pus in fallopian tubes); prior IUD use; recent pregnancy, abortion, or miscarriage; uterine surgery; venereal disease; severe menstrual cramps; allergy to copper; anemia; fainting attacks; unexplained genital bleeding or vaginal discharge; suspicious or abnormal "Pap" smear.

Long-Term Effect on Ability to Have Children

Pelvic infection in some IUD users may result in their future inability to have children.

Diaphragm (With Cream, Jelly, or Foam)

Prescription Required

A diaphragm is a shallow cup of thin rubber stretched over a flexible ring. A sperm-killing cream or jelly is put on both sides of the diaphragm, which is then placed by the woman inside the vagina before intercourse. The device covers the opening of the uterus, thus preventing the sperm from entering the uterus.

Effectiveness	**Advantages—Disadvantages**	**Side Effects**	**Health Factors to Consider**	**Long-Term Effect on Ability to Have Children**
Effectiveness depends on how correctly the method is used. Of 100 women who use the diaphragm with a spermicidal product for one year, 2 to 20 will become pregnant.	*Advantages:* No routine schedule to be kept as with The Pill. The diaphragm with a spermicidal product is inserted by the user. No discomfort or cramping, as with the IUD. No effect on the chemical or physical processes of the body, as with The Pill or the IUD. *Disadvantages:* Must be inserted before each intercourse and stay in place 6 to 8 hours afterwards. Size and fit require yearly checkup, and should be checked if woman gains or loses weight significantly. Should be refitted after childbirth or abortion. Requires instruction on insertion technique. Some women find it difficult to insert and inconvenient to use. Some women in whom the vagina is greatly relaxed, or in whom the uterus has "fallen," cannot use a diaphragm successfully.	No serious side effects. Possible allergic reaction to the rubber or the spermicidal jelly. Condition easily corrected.	None.	None.

Foam, Cream, or Jelly Alone (including Suppositories*)

No Prescription Required

Several brands of vaginal foam, cream, or jelly can be used without a diaphragm. They form a chemical barrier at the opening of the uterus that prevents sperm from reaching an egg in the uterus; they also destroy sperm.

Effectiveness	Advantages—Disadvantages	Side Effects	Health Factors to Consider	Long-Term Effect on Ability to Have Children
Effectiveness depends on how correctly the method is used. Of 100 women who use aerosol foams alone for one year, 2 to 29 will become pregnant. Of 100 women who use jellies and creams alone for one year, 4 to 36 will become pregnant. No figures available for suppositories—considered fair to poor.	*Advantages:* Easy to obtain and use. No devices needed. *Disadvantages:* Must be used one hour or less before intercourse. If placed earlier, may become ineffective. If douching is desired, must wait 6 to 8 hours after intercourse.	No serious side effects. Burning or irritation of the vagina or penis may occur. Allergic reaction may be corrected by changing brands.	None.	None. **Very few suppositories are intended for birth control. Ask before you buy.*

Female Sterilization

The primary method of sterilization for women is tubal sterilization, commonly referred to as "tying the tubes." A surgeon cuts, ties, or seals the fallopian tubes to prevent passage of eggs between the ovaries and the uterus. Several techniques are available. With one new technique, the operation can be performed in a hospital out-patient surgical clinic with either a local or general anesthetic. Using this method, the doctor makes a tiny incision in the abdomen or vagina and blocks the tubes by cutting, sealing with an electric current, or applying a small band or clip. Hysterectomy, a surgical procedure involving removal of all or part of the uterus, also prevents pregnancy, but is performed for other medical reasons and is not considered primarily a method of sterilization.

Effectiveness	**Advantages—Disadvantages**	**Side Effects**	**Health Factors to Consider**	**Long-Term Effect on Ability to Have Children**
Virtually 100 percent.	*Advantages:* A one-time procedure—never any more bother with devices or preparations of any kind. *Disadvantages:* Surgery is required. Although in some cases a sterilization procedure has been reversed through surgery, the procedure should be considered permanent.	As with any surgery, occasionally there are complications, such as severe bleeding, infection, or injury to other organs which may require additional surgery to correct.	There is some risk associated with any surgical procedure, which varies with the general health of the patient.	When the traditional type of tubal ligation is used, it is reversible in some cases. However, ability to reverse should not be counted on.

Male Sterilization

Sterilization of men involves severing the tubes through which the sperm travel to become part of the semen. The man continues to produce sperm but they are absorbed by the body rather than being released into the semen. This operation, called a vasectomy, takes about half an hour and may be performed in a doctor's office under local anesthetic. A vasectomy does not affect a man's physical ability to have intercourse.

Effectiveness	**Advantages—Disadvantages**	**Side Effects**	**Health Factors to Consider**	**Long-Term Effect on Ability to Have Children**
Virtually 100 percent.	*Advantages:* A one-time procedure that does not require hospitalization and permits the man to resume normal activity almost immediately. *Disadvantages:* The man is not sterile immediately after the operation—usually it takes a few months. Other means of contraception must be used during that time.	Complications occur in 2 to 4 percent of cases, including infection, hematoma (trapped mass of clotted blood), granuloma (an inflammatory reaction to sperm that is absorbed by the body), and swelling and tenderness near the testes. Most such complications are minor and are treatable without surgery. Studies by the National Institutes of Health show that vasectomy does not affect a man's sexual desire or ability.	None.	Male sterilization is reversible in a fair number of cases, but ability to reverse should not be counted on.

Condom (Rubber)

No Prescription Required

The condom is a thin sheath of rubber or processed lamb cecum that fits over the penis.

Effectiveness	**Advantages—Disadvantages**	**Side Effects**	**Health Factors to Consider**	**Long-Term Effect on Ability to Have Children**
Effectiveness depends on how correctly the method is used. Of 100 women whose partner uses a condom for one year, 3 to 36 women will become pregnant.	*Advantages:* In addition to contraception, may afford some protection against venereal disease. Easily available. Requires no "long-term" planning before intercourse. *Disadvantages:* Some people feel the condom reduces pleasure in the sex act. The male must interrupt foreplay and fit the condom in place before sexual entry into the woman. The condom can slip or tear during use or spill during removal from the vagina.	No serious side effects. Occasionally an individual will be allergic to the rubber, causing burning, irritation, itching, rash, or swelling, but this can easily be treated. Switching to the natural skin condom may be a solution.	None.	None.

"Natural Family Planning" (e.g.,Rhythm Method)

The woman must refrain from sexual intercourse on days surrounding the predicted time of monthly ovulation or, for greater effectiveness, until a few days after the predicted time of ovulation. Ways to determine the approximate time of ovulation include a calendar method, temperature method, cervical mucus method, and a sympto-thermal method. Using the calendar method requires careful recordkeeping of the time of the menstrual period, and calculation of the time in the month when the woman is fertile and must not have intercourse. To use the temperature method, the woman must use a special type of thermometer and keep an accurate daily record of her body temperature (body temperature rises after ovulation). To use the cervical mucus method the woman must keep an accurate daily record of the type of vaginal secretions present. To use the sympto-thermal method the woman must observe the changes in her cervix, cervical mucus, and also record her body temperature every day to pinpoint her fertile period. The temperature method, mucus method, or sympto-thermal method used alone or concurrently with the calendar method are more effective than the calendar method alone.

Effectiveness	**Advantages—Disadvantages**	**Side Effects**	**Health Factors to Consider**	**Long-Term Effect on Ability to Have Children**
Effectiveness depends on how correctly the method is used. Of 100 women who use the calendar method for one year, 14 to 47 will become pregnant. Of 100 women who use the temperature method for one year, 1 to 20 will become pregnant. Of 100 women who use the mucus method for one year, 1 to 25 will become pregnant. Of 100 women who use, for one year, the temperature or mucus method with intercourse only after ovulation, less than 1 to 7 will become pregnant. Of 100 women who use the sympto-thermal method for one year, 1 to 22 will become pregnant.	*Advantages:* No drugs or devices needed. *Disadvantages:* Requires careful recordkeeping and estimation of the time each month when there can be no intercourse. To use any of the three methods properly a physician's guidance may be needed, at least at the outset. If menstrual cycles are irregular, it is especially difficult to use this method effectively. Dissatisfaction because of extended time each month when sexual intercourse must be avoided.	No physical effects, but because the couple must refrain from having intercourse except on certain days of the month, using this method can create pressures on the couple's relationship.	None.	None.

Withdrawal (Coitus Interruptus)

This method of contraception requires withdrawal of the male organ (penis) from the vagina before the man ejaculates, so the male sperm are not deposited at or near the birth canal. This method should not be considered effective for preventing pregnancy.

Douching

Use of a vaginal douche immediately after sexual intercourse to wash out or inactivate male sperm is not considered effective for preventing pregnancy.

APPENDIX D

Resources for Family Planning Assistance

ADAPTED FROM: Lewison, Dana. "Sources of Population and Family Planning Assistance," Population Reports, series J, No. 26, Baltimore, Maryland: Population Information Program, The Johns Hopkins University, January-February, 1983.

RESOURCES FOR FAMILY PLANNING ASSISTANCE

AGENCY	TYPE OF ASSISTANCE
I. Intergovernmental Agencies	
Executive Director United Nations Fund for Population Activities 220 East 42nd Street New York, New York 10017	International program funding. International research. Information. Communication, education.
Senior Policy Specialist Women's Activities Section United Nations Children's Fund 866 United Nations Plaza New York, New York 10017	International program funding. Information. Communication, education.
FAO Population Program Coordinator Food and Agriculture Organization Via delle Terme de Caracalla 00100 Rome, Italy	Information. Communication, education.
Director-General United National Educational, Scientific and Cultural Organization 7 Place de Fontenoy 75700 Paris, France	School curricula materials. Information. Communication, education.
Director, Division of Family Health, or Director, Special Programme of Research, Development and Research Training in Human Reproduction World Health Organization 1211 Geneva 27, Switzerland	International research. Information. Communication, education.
Chief, Division of Comprehensive Health Services Pan American Health Organization 525 23rd Street, N.W. Washington, D.C. 20037	International funding and program implementation. Information. Communication, education.
Director Population, Health and Nutrition Department World Bank 1818 H Street, N.W. Washington, D.C. 20433	International program funding. Information Communication, education.
II. Nongovernmental Funding Organizations	
Director, Population Sciences The Rockefeller Foundation 1133 Avenue of the Americas New York, New York 10036	International program funding. International research. Information. Communication, education.

Chief Program Officer The Ford Foundation 320 East 43rd Street New York, New York 10017	Domestic and international program funding. Information. Communication, education.
Director, Family Life and Population Program Church World Service 475 Riverside Drive New York, New York 10115	International program funding. Information. Communication. education.
Program Director General Service Foundation c/o Macalester College St. Paul, Minnesota 55105	Supports projects carried out by other private, nonprofit organizations. Information, communication, education
Program Director The William & Flora Hewlett Foundation 525 Middlefield Road Menlo Park, California 94025	Domestic and international program funding. Information, communication, education
The Andrew W. Mellon Foundation 140 East 62nd Street New York, New York 10021	International program funding. Information, communication, education
Information Officer Population Concern Margaret Pyke House 27-35 Mortimer Street London W1N 7RJ, UK	International program funding. Information, communication, education
Chairman, Special Projects Fund Population Crisis Committee 1120 19th Street, N.W. Washington, D.C. 20036	International program funding. Information. Communication, education.

III. Nongovernmental Funding and Technical Assistance Organizations

International Planned Parenthood Federation 18-20 Lower Regent Street London SW1Y 4PW, UK	Provision of services internationally Information. Communication, education.
President, The Population Council One Dag Hammarskjold Plaza New York, New York 10017	International program funding. International research funding.
Director of International Programs Association for Voluntary Sterilization 122 East 42nd Street New York, New York 10168	International assistance to male and female sterilization programs. Information Communication, education.
Director Population and Development Policy Program Battelle Human Affairs Research Centers Battelle Memorial Institute 2030 M Street, N.W. Washington, D.C. 20036	International research funding.

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Director Center for Population and Family Health Columbia University 60 Haven Avenue New York, New York 10032	International technical assistance. Information. Communication, education.
Division of Population Programs Development Associates, Inc. 2924 Columbia Pike Arlington, Virginia 22204	Private consulting firm which provides technical assistance to government and private agencies.
Director Population Institute East-West Center 1777 East-West Road Honolulu, Hawaii 96848	International research funding. Short term training programs. Information Communication, education.
President Family Health International Research Triangle Park, North Carolina 27709	International research. Information. Communication, education.
Chief Operating Officer Family Planning International Assistance 810 Seventh Avenue New York, New York 10019	Technical, material and financial assistance to international programs. Information Communication, education.
Vice President, Washington Operations The Futures Group 1029 Vermont Avenue, N.W. Washington, D.C. 20005	Private research and consulting firm. Provides technical assistance to social marketing programs.
Executive Director International Federation for Family Life Promotion 1511 K. Street, N.W., Suite 333 Washington, D.C. 20005	International program support.
Director INTRAH University of North Carolina at Chapel Hill 209 North Columbia Street Chapel Hill, North Carolina 27514	Training assistance to programs in Africa and the middle-East.
President Japanese Organization for International Cooperation in Family Planning Hoken Kaikan Bekkan 1-1 Sadohara-cho, Ichigaya, Shinjuku-ku Tokyo 162, Japan	Private organization which promotes programs in developing countries.
Department of Population Dynamics Johns Hopkins University School of Hygiene and Public Health 615 North Wolfe Street Baltimore, Maryland 21205	Technical assistance, research and training programs.

Director Population Information Program Johns Hopkins University 624 North Broadway Baltimore, Maryland 21205	Publish Population Reports. Information. Communication, education.
Johns Hopkins Program for International Education in Gynecology & Obstetrics 550 North Broadway Baltimore, Maryland 21205	Medical training, education.
Director Women in Development Program Partners of the Americas 2001 S Street, N.W. Washington, D.C. 20009	Private organization which links volunteers to community development projects.
The Pathfinder Fund 1330 Boylson Street Chestnut Hill, Massachusetts 02167	International project funding. Information.
Director of Administration Program for Applied Research on Fertility Regulation 875 N. Michigan Avenue, Suite 1525 Chicago, Illinois 60611	International research funding. Information. Communication, education.
Executive Director Program for the Introduction and Adaptation of Contraceptive Technology 130 Nickerson Street Seattle, Washington 98109	Technical and financial assistance. Information. Communication, education.
Project Director Regional Training Service Agency/Asia University of Hawaii School of Public Health 1890 East-West Road Honolulu, Hawaii 96822	Training programs for health personnel.
Director Integrated Population and Development Planning Program Research Triangle Institute P.O. Box 12194 Research Triangle Park, North Carolina 27709	Research and technical assistance for programs in developing countries. Information. Communication, education.
Westinghouse Health Systems Box 866 American City Building Columbia, Maryland 21044	Technical assistance for research. Information. Communication, education.
Responsible Parenthood Coordinator World Neighbors 5116 North Portland Avenue Oklahoma City, Oklahoma 73112	Technical assistance to self-help programs in developing countries. Information. Communication, education.

WOOMB - USA Executive Director 308 South Tyler Street Covington, Louisiana 70433	Disseminate information about the Billings method.

IV. Nongovernmental Technical Assistance Organizations

Director International Health Programs American Public Health Association 1015 Fifteenth Street, N.W. Washington, D.C. 20005	Technical assistance to developing countries. Information. Communication, education.
President Centre for Development and Population Activities 1717 Massachusetts Avenue, N.W., Suite 202 Washington, D.C. 20036	Managerial and technical training for developing countries. Information. Communication, education.
Executive Director International Committee on the Management of Population Programmes RS. 141, Taman Uda Jaya P.O. Amtang Selangor, Malaysia	Information. Communication, education.
International Statistical Institute 428 Prinses Beatrixlaan 2270 AZ Voorburg, Netherlands	World Fertility Survey
Project Director World Fertility Survey International Statistical Institute 25-37 Grosvenor Gardens London, SW1W OBS, UK	Technical assistance for international research.
Director of Technical Program Development Management Sciences for Health 165 Allandale Road Boston, Massachusetts 02130	Technical assistance related to management skills to domestic organizations.
Director International Training Program Margaret Sanger Center Planned Parenthood Federation of New York City 380 Second Avenue New York, New York 10010	Training of nurses and midwives. Information. Communication, education.
President Meals for Millions/Freedom from Hunger Foundation 815 Second Avenue, Suite 1001 New York, New York 10017	Training programs in nutrition.
President Save the Children 54 Wilton Road Westport, Connecticut 06880	Self-help development assistance to domestic and international communities.

World Education, Inc. 210 Lincoln Street Boston, Massachusetts 02111	Financial and technical assistanc for family life education.
Director World Federation Secretariat 122 East 42nd Street New York, New York 10168	Technical assistance for international projects. Information. Communication, education.